

Region 8 13658

PRODUCTION DEPT.

EAST POPLAR UNIT WELL NO. 14

FOOSHWRIT COUNTY, MOMTANA

PRINCIPLE CONFORMATION -- OFFICE AND STREET

Note: Heath show in Sample descrip At 4875-95

EAST POPLAR UNIT WELL NO. 14 ROOSEVELT COUNTY, MONTANA MURPHY CORPORATION--OPERATOR

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WELL EISTORY

WELL NO.: East Poplar Unit Well No. 14

LOCATION: C SE SE Section 3, Township 28 North, Range 51 East

ELEVATION: 2089 Ground - 2100 K.B.

CONTRACTOR: Picneer Brilling Company

SPUDDED: 2:00 A.M., May 18, 1955

CGMPLETED: 10:00 P.H., June 9, 1955

NOTAL DEPTH: 5328' Briller equals 5833' Schlumberger

CASING: 13-3/8" @ 40.00° with 50 sacks cement

9-5/8" @ 983,48" with 400 sacks cement 5-1/2" @ 5832.00" with 300 sacks cement

TUBING: 2-3/8" @ 5632.76

PERFORATIONS: "B-2" Zone - 5657: -5665

PACKER: None

ACID TREATMENT: "B-2" Zone - 1700 gallons etching acid

500 gallons gel

INITIAL POTENTIAL: 162 BOYD, 133 BMFD, 45% water cut

TYPE COMPLETION: Single producer from the "E-2" Zone

SUPPLEMENT TO WELL HISTORY

EAST POPLAR UNIT 14

10-24-90 A CIBP was set at 4870'.

11-07-90 Well was pressured to 510# held 30 minutes.

AUTHORITY FOR EXPENDITURE MURPHY CORPORATION - MAST POPLAR UNIT NO. 14 SE SE Section 3, T28N, R51E, Roosevelt County, Montana

Drilling - Footage - 5825 @ \$5,25/ft. Daywork - 2 days @ \$850/day &	TO CSG. PT.	COMP. & EQUIP.	TOTAL COST \$ 30,580
2 4=== @ 6005 /4===	1,700	\$ 1.550·	1,700
Loc. survey, permit & prep.	. 	\$ 1,550°	1,550 200
Roads, fences, cattleguard, etc.	200	•	200
Mud mat. & chem., incl. oil & gas	4,000	•	4,000
Drilling bits, baskets, etc.	4,000	250	250
Comenting casing	1,600	950	2,550
Coring materials & services	500	,	500
Testing services incl. swabbing	•••	150	150
Other logs, surveys & analysis	1,200	200	1,200
Perforating services		600	600
Hydrafrac, acidize, etc. incl. oil		2,200	2,200
Float equip., centralizers, etc.	250	650	900
Trucking, welding & other labor	500	50 0	1,000
Supervision & Miscellaneous	200	200	400
Total Est. Well Drlg. & Const. Exp.	\$ 40,930	\$ 7,050	\$ 47,980
•		. ,	,
WELL EQUIPMENT COSTS:			•
Casing: 1090' of 9-5/8" 0.D.	\$ 3,500		\$ 3,500
Casing: 5900 of 5-1/2" 0.D.		\$ 9,270	9,270
Tubing: 5900 of 2-7/8" 0.D.	•	4,590	4,590
Casing head & connections	300		300
Xmas tree & connections	-	1,300	<u>1,300</u>
Total Est. Well Equip. Costs	\$ 3,800	\$ 15 ₁ ,160	\$ 18,960
Total Est. Cost of Well	\$ 44,730	\$ 22,210	\$ 66,940
TEACH FORTINGAIN.			•
LEASE EQUIPMENT:		ė 0 000	h 9 000
Flow lines		\$ 2,200 500	\$ 2,200
Other line pipe, valves & fittings		500	500
Trucking, welding & other labor		2,000	2,000
Total Est. Cost of Lease Equip.	X X 7 75 75 75	\$ 4,700	\$ 4,700
TOTAL EST. COST OF WELL & LEASE EQUIP.	\$ 44,780	\$ 26,910	\$ 71,640
APPORTIONMENT OF	TOTAL ESTIMATED	COSTS	
7,			
Murphy Corporation -	A	A	
Unit Operator 31,448470	\$ 14,066	\$ 8,463	\$ 22,530
Hunoco Company 2,096565	938	564	1,502
Placid Oil Company 33,545035	15,005	9,027	24,032
The Carter Oil Company 16,335860	7,307	4,396	11,703
Phillips Petroleum Company 16.335860	7,307	4,396	11,703
C. F. Lundgren .238210	107	64	171
APPROVAL	OF EXPENDITURE		
Production Department		Approved	
Requested by Harold milan			Sention!
Date 555-55		Party St.	ection
	_	Av Le Hould	21. L
Approved by Jordon Kurky		S SY HOUSE Y	eusse
Date	_	Date _5- 18-5	<u>-5</u>
Executive Department		4	
		Approved	
Approved by (st u) - Thankon		1 1 =	_
Date mu 16 19.53		131 Youl C. Or	7 Could 5-1955
		•	

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EXPLORATION PROSPECTUS FOR East Pop	lar Unit 14 Well No.			
LOCATION SE SE Section 3-T28N-R51E	FIELD EAST POPLAR			
	COUNTY Roosevelt STATE Montana			
ELEVATION 2110° K.B. (est.) OBJECTIVE	FORMATION AND DEPTH Madison "C" Zone 5820°			
EXPECTED STRATIGRAPHIC SECTION AND ES	TIMATED DEPTHS			
Judith River	Spearfish 4610 (-2500) Amsdem 4724 (-2614) Heath 4836 (-2726) Otter 5005 (-2895) Kibbey Sand 5300 (-3190) Kibbey Lime 5300 (-3190) Hadison 5390 (-3280) "A" Zone 5505 (-3395) "B-1" Zone 5645 (-3535) "B-2" Zone 5663 (-3553) "C" Intercrystalline 5798 (-3688)			
RECOMMENDED CORING PROGRAM	/			
Circulate Heath Sand. Do not core. RECOMMENDED TESTING PROGRAM. RECOMMENDED LOGGING SERVICE				
A. ELECTRIC LOG: (1) Surface(2) Correlation (3) Total Depth X			
B. MICRO LOG: (1) Surface(2) Correlation (3) Total Depth X			
C. GAMMA RAY: D. LATERO L	OG: E. LIMESTONE:			
F. OTHER: VELOCITY SU	RVEY KUD TRUCK			
GENERAL INFORMATION (SURFACE AND NEAR CULTURE, ACCESSI	SURFACE SEDIMENTS, DRILLING WATER, BILITY, NEARBY WELL CONTROL, ETC.)			
Nearest subsurface well control: E.F.	O.U. # 5 SW SW Section 2-T28N-R51E. O.U. #12 SW SE Section 8-T28N-R51E.			
TUBULAR PROGRAM:				
1000° of 9-5/8° 0.D. 5900° of 5-1/2° 0.D.				
REMARKS	·			
	BILLINGS DIVISION			
·.	DATE 5-5-5			
	M Bill Lan			

 DRILLING PROSPECTUS FOR East Poplar Unit Lease Name Well No. LOCATION SE SE Section 3-T28N-R51E East Poplar COUNTY Roosevelt STATE Montana

SURFACE HOLE

SIZE:

12-1/4ⁿ

. MUD:

Natural and Bariod 9-5/8" O.D.

CASING:

CEMENT:

400 sacks regular 2% CaCl2

SETTING TIME: 24 hours

BELOW SURFACE

HOLE SIZE: 8-3/4" CORE HOLE SIZE: 7-7/8" TEST TOOLS: No tests TESTING TIME:

SHUT IN TIME: CASING:

5-1/2" 0.D. 15.50# J-55 300 sacks Slo-set 2% gel

CEMENT: MUD PROGRAM

TYPE:

Natural and chemical to 4000;

Caustic and quebracho 4000° to T.D.

MUD WEIGHT:

10.4 to 10.6

HATER LOSS:

15 cc or less

PH:

12

VISCOSITY:

40

NOTES:

40' of 13-3/8" was set with a dry hole digger in 1952. Completion will be made in the "B-1" and "B-2" Zones using conventional methods. Will stratafrac if necessary.

BILLINGS DIVISION

File # 11. J. James
A.F.E. No. 55-1154

ANTHORITY FOR EXOMINITURE EAST POPLAR UNIT NO. 14 (Installation of Pumping Unit) SE SE Section 3, T280-R51E, Roosevelt County, Montana

Pumping Unit, complete with engine	\$ 8,200
Labor and materials, setting unit	[~] 750
Trucking, small fittings & incidentals	150
Total Estimated Cost	\$ 9,100

APPORTIONMENT OF TOTAL ESTIMATED COST

	\$	
Murphy Cornoration-	•	
Unit Operator	31.448470	\$ 2,862
Munoco Company	2.096565	191
Placid Oil Company	33.5k5035	3,053
The Carter Oil Company	16.335860	1,487
Phillips Petroleum Company	16.335860	1,487
C. F. Lundgren	.238210	22

APPROVAL OF EXPENDITURE

Requested by:	Recommend Approval:	
Am Milam 6-10-55 Mivision Production Supt. date	General coduction Supt.	date
Rocomend Approval:	Recommend Approval:	
Division Kanager date	Budget Supervisor	cate
,	Approved:	•
	Vice President-Operations	date



AUTHORITY FOR EXPENDITURE MURPHY CORPORATION - EAST POPLAR UNIT NO. 14 SE SE Section 3, T28N, R51E, Roosevelt County, Montana

(Workover No. 1)

Pulling Unit 7 (12 hrs.) days @ \$336 per day	\$2,350
Run G&N Log	825
Squeeze B-2 Zone w/50 skg. Latex Coment	1,075
Retrievable Bridge Plug and Packer	575
Two Perforating Jobs (B-2 & 1)	1,000
Two 500 gals. Acid Jobs (B-2 & 1)	1,450
Dia-Log 2½" Tbg.	400
Change Cut 1675' of 2 3/8 to 2 7/8" Class 2 @ \$0.65 per ft.	1,075
Misc. Trucking, Material and Labor	400
Less Credit on 1675' of 2 3/8" Tbg. @ \$0.35 per ft.	_(575)
Total Estimated Cost	\$8,575

Present Status: Pumping 256 BPPD, 90% water (26 BO 230 BN) from B-2 Zone.

Justification for Expanditure: To increase production, test Latex cemant for water shut off and attempt to determine the water cut's of the B-1 & 2 Zones individually.

Fromosed Workover: Run Dia-Log through 24' thg, run GEN Log, squeeze B-2 Zone perforation 5657-65' w/50 sks. Letex cement through retrievable pecker, drill out, and reperforate the B-2 Zone w/jet notch gun 5658' and 5661'. Acidize w/500 gals. retarded acid and swab test. If fluid volume is not too high to handle, perforate the B-1 Zone 5640' and 5643' w/jet notch gun. If the B-1 & 2 Zones are not communicated, acidize the B-1 Zone w/500 gals. retarded acid, swab test and produce B-1 & 2 co-mingled.

APPORTIONNENT OF TOTAL ESTIMATED COST

Murphy Corporation	31.448470%	\$2,697
Munoco Company	2.096565%	180
Placid Oil Company	33.545035%	2,876
Humble Oil & Refining Co.	16.335860%	1,401
Drilling Specialties Co.	16.335860%	1,401
C. F. Lundgren	.238210%	20

APPROVAL OF EXPENDITURE

Requested by: My	duct ion	5-11-61 Superintendent Date	
RECOMMEND APPROVAL:		RECOMMEND APPROVAL:	
Division Production Supt.	Date	Staff Production Man	Dete
RECOMMEND APPROVAL:		RECOMMEND APPROVAL:	
Division Manager	Date	Budget Supervisor	Date
		APPROVED: Vice President - Operations	Dete
all approve	.l-o ./	received me of 6.	

MTJ:pm 5-11-61

AUTHORITY FOR EXPENDITURE 150RPHY CORPORATION - EAST POPLAR UNIT NO. 14 SE SE Section 3, T28N, R51E, Roosevelt County, Montana

(Workover No. 3)

Pulling unit 3 (10 hr.) days @ \$290	\$	875
3000 gal reterded acid w/fluid loss additive, 1000 of adomite and service Misc. labor, trucking, and material	•	,925 200
TOTAL ESTINATED COST	\$ 3	3,000

Present Status: Pumping at rate of 12 BOPD, 25 EWPD from E1 zone perforation, 5640-43'.

Eistory: Initial completion B2 zone perforation 5657-65' WO #1, 7-7-61, latest cament squeeze B2 zone could not re-enter zone acidized into water. Recompleted in B1 zone perforations 5640-43'. 2 acid jobs 500-1000 gal. B1 zone potential pumping at rate of 63 BOPD, 17 BWPD.

Workover #2, 8-21-62 treated B1 zone w/B-3-S acid mixed in lease crude. Workover unsuccessful.

Structurally:

Well Ho.	Zone	tops	BOPD	BHPD	Remarks
EPU 14	B1	-3539	12	25	Bl only
£ 20 5	731	-3542 '	80	80	B1 & 2 DOC Squeezed
SPU 12	B1	-3530 '	84	138	B1 & 2 Open

Proposed Forkover: To increase production. Displace into El Zone formation 1000 gal lease cruda w/100% adomite fluid loss additive added. Follow w/3000 gals Dowell retarded acid w/150% of Dowell FLA - X2 (J-208 Fluid Loss Additive) added to acid. Acidize through model "R" retrievable packer. Twin dissel pump truck for max, injection rate. Swab spint acid and pump test.

APPORTIONMENT OF TOTAL ESTIMATED COST

Murphy Corporation	31.448470%	\$ 944
Emoco Company	2.096565%	\$ 63
Placid Oil Company	33.545035%	\$ 1,006
Humble Oil & Refining Company	16.335860%	\$ 490
Phillips Fattoleum Company	16.335860%	\$ 490
C. F. Lunderea	,238210%	\$ 7

APPROVAL OF EXPENDITURE

Requested by: MA Manufaction Supt. 10-23-62

Field Production Supt. Date

Production Superintendent

APPROVED:

/5 / Original Signed by W. J. Thornton

Production Manager

Date

MTJ: cm 10-23-52

round to mo game vigger Cong A. E. E. No. 5-1500

AUTHORITY FOR EXPENDITURE

MURPHY O'LL CORPORATION - EAST POPLER UNIT NO.

SE SE Section 3, T28N, R51E, Roosevelt County, Montana

(WORKOVER .#4)

No.

MISTORY: Completed June 9, 1955 from the B-2 Zone.

Workover No. 1 July, 1951 cement squeezed the B-2 Zone w/Latex Cement. Reperforated and acidized the B-2 Zone. Tested 7 BOPD, 232 BWPD--Unsuccessful. Squeezed the B-2 Zone and recompleted in the B-1 Zone.

Workover No. 2 Treated the B-1 Zone w/Visco B-3-8 Acid. Unsuccessful.

Workover No. 3 November, 1962 acidized the B-1 Zone w/3000 gal. retarded acid. Unsuccessful acidized into water.

PRESENT STATUS: Pumping from the 8-1 Zone, perforations 6540 to 43'. December 9, 1964 well test - pumping at the rate of 251 BFPD 97Z water, 8 BOPD, 243 BWPD - Engcompanies),

PROPOSAL: To Test the Heath Sand Run Cament Bond Log, set C.T. Bridge Plug w/l sks cmt. on top on W.L. at 5550' (above salt section). Perforated the 2nd stringer of the Esath Sand 4945' to 4950' 2 holes per ft.. Swab test and Sand Prac if needed to increase fluid. If the 2nd stringer of the Esath Sand is uneconomical squeeze w/Latax Cut. and Sand Notch the first stringer of the Heath Sand 4894' and 4896'. Swab test and Sand Frac if needed to increase fluid. All measurment G&N Log and assuming that the dement is bonded through the Heath Sand.

i

ESTIMATED COST-YEST 2ND STRINGER

Pulling Wait 60 hours at 30.00 per hr.	\$18	0 0
Cament Bond Log, Bridge Flug and perfora	ite ! 16	อด
Packer rental and service	. 5	CO
Sand Frac w/12,000# sand	27	00,
Misc. labor, trucking and material	5	00
TOTAL ESTIMATED COST	\$71	.00
ESTIMATED COST TO SO	QUEHZE AND TEST 1ST STRINGER	
Pulling Unit 40 hours at \$30 per hour		00
Cement retainer set on W.L., Cement and	service 13	00
Sand Notch and Sand Frec	39	00
Misc., labor, trucking and material		<u>00</u>
TOYAL ESTIMATED GOST (4	7,3	00
EST IHATED	COST OF PRODUCING FACILITIES	
Three phase Oil and Gas Separator w/P.D.	Mater	
and accessories		00
Separator House and labor to hook up		00
·	4,6	00
Grand Total 2 Test and ta	ACILITIES (ESTIMATED) \$19,	000
APPORTIONZNI	OF, TOTAL ESTIMATED COST	
Murphy Oil Corporation 3	31.4484707 \$ 5,9	75
Munoco Company	2.0965657 3	98
Placid Oil Company 3	33 .545035% 6,3	74
	16.335860% 3,1	04
Phillips Petroleum Company 1	.6.335860% 3,1	04
C.F. Lundgren	.238210%	45

APPROVAL OF EXPENDITURE

Requested By:

Recommend Approval:

			- ·
M. T. James	12-22-44		•
Hi T James	12-22-44 Daka	W. J. Thornton	Date
J			
	•	seem	
L. L. Duncan	Date		1:1/
		CAH 1-2	4.66

AUTHORITY FOR EXPENDITURE

MURPHY OIL CORPORATION - EAST POPLAR UNIT NO. 14

SE SE Section 3, T28N, R51E, Roosevelt County, Montana

(Workover No. 5)

Workover No. 4 Blanked off the B-l Zone w/Bridge Plug (depoleted). Perforated the Heath Sand 4945-50'. Swab tested at the rate of 164 BFPD, 100% Salt Water. Squeezed and reperforated the Heath Sand 4895-98'. Swab tested at the rate of 1st. hr. 150 BFPD 99% Salt Water, 5th hr. 109 BFPD 100% Salt Water.

PRESENT STATUS: Tamporarily Abandoned.

PROPOSAL: To further test the Heath Sand and Amsden.

No. 1 Set C.I. Bridge Plug on W.L. et 4891'. Run tubing w/seating nipple and perforate the Reach Sand 4850-70' w/Through Tubing Magnet Jet Gun, 2 holes per ft. Run rods and pump test.

No. 2 If Uncommercial and fluid volume is not to high (100-150 BPD) pull rods, perforate the Heath Sand 4884-90', 2 holes per ft., run rods and pump test

No. 3 If uncommercial, pull rods and tubing: Run and set C:I. Bridge Plug on W.L. at 4850' w/l sk. cmt. on top of plug. Run tubing, perforate the Ameden at 4758-70', 2 holes per ft. Run rods and pump test. If unsuccessful lay down rods, load hole with Salt Water, lay down tubing, set Bridge Plug on W.L. at 4740' w/l sk. cmt. on top and abandon.

ESTIMATED COST

Pulling Unit 84 hrs. @ \$31.00 per hr. Bridge Plugs (3) set on W.L. Perforate (3 jobs) One Sand Frac Job Misc. labor, trucking and material	•	\$ 2,600 \$ 1,300 \$ 1,200 \$ 2,700 500
	Total Estimated Cost	\$ 8.300
Estimated Cost of Producing Facilities O & G Separator, P.D. Moter, Est	2	\$ 4,600
The second secon	GRAND TOTAL SUCCESSFUL COMPLETION	\$12,900

APPORTIONMENT OF TOTAL ESTIMATED. COST

Murphy Oil Corporation	31.448470%		\$ 4,057
Munoco Company	2.096565%		\$ 270
Placid Oil Company	33.545035%		\$ 4,327
Humble Oil and Refining Company	16.335860%		\$ 2,108
Phillips Petroluem Company	16.335860%		\$ 2,108
C. F. Lundgren	2382107	•	30

APPROVAL OF EXPENDITURE

Requested by:

Recommend Approval:

	·	. • •	
may lones	5-25-65		
M. T. James	Date W. J. The	ornton	Date
	•		
·		•	•
L. L. Duncan	Data		
APPROVED:	•		

AUTHORITY FOR EXPENDITURE MERPHY OIL CORPORATION - EAST POPLAR UNIT NO. 14 C SE SE Section 3. T28N, R51E, Roosevalt County, Mentana

PRESENT STATUS: Temporarily abandoned March 4, 1965.

MISTORY: Completed June 9, 1955 from the B-2 Zone. Depleted and watered out.

Workover No. 1: August, 1961. Squeezed the B-2 and recompleted in the B-1 Zonu.

Workover No. 2: August, 1962 Acidized Wasuccessful.

Workover No. 3: November, 1962 Reacidized the B-1 Zone Unsuccessful

Workover No. 4: February, 1965 Shut the B-1 Zone in with Bridge Flug. Ran Czwent Bond Log (good bond through Heath Sand). Perforated the Heath Sand 4945-50'. Sweb tested 164 EFPD 100% Water. Latex Cement squeezed. Perforated the Heath Sand 4895-98'. Sweb tosted 109 EFPD 100% Water.

Structurally Heath Porosity

Bast Poplar Umit No. 14

East Poplar Unit No. 15 .

- 2774'

- 2736'

PROPOSAL: Set C.I. Bridge Plug at 4893'. Top squeeze the Heath Sand perforations 4895-98' with 50 sacks Latex. Perforate the Heath Sand 4877-4892.5' 1 hole per foot with 50 gram jets. Swab test. Acidize with 500 gallons 15% (if needed). Sand Frac with 8,0000 sand and 4,0000 beads and 50 gallons Gyp Ean. (Expected production 100 BO and 200 BW Pay out 5 Months.)

ESTRIATED COST

Pulling Unit, 60 Erc. at \$35.60 per br,	\$ 2,175.00
4900' of 2-7/8" Claus No. 1 Tubing at \$1.04 per ft. (Stock)	\$ 5,100.00
Set Cement Retainer on W.L., Perforate	\$ 1,000.00
Block Squanze with 500 sacks Latex Cement	\$ 1,250.00
500 Gallon Acid and Sand Frac	\$ 5,075.CO
4800' 7/0" and 3/4" Class No. 2 Rods and Pump at \$0.35 (Szock)	\$ 1,725.00
160 Peak Torque Pumping Unit, Motor and Controls (Stock)	\$ 2,700.00
Matering Separator (from Sletvold No. 2 - Not in use)	. \$ 4,500.00
Misc. Labor, Trucking and Historical	\$ 1,500.00
tozal estimated cost	825.025.00

APPORTIONMENT OF TOTAL ESTIMATED COST

Murphy Gil Corporation	31.448470%	\$ 7,870.00
Placid Oil Company	33.545035%	\$ 8,395.00
Mumble Oil and Refining Company	16.335850%	\$ 4,038.00
Phillips Patroleum Company	16.335860%	\$ 4,088.09
Munoco Company	2 .0 96565%	\$ 525.00
C. F. Lundgren	.2382107.	\$ 59.60

APPROVAL OF EEPENDYTURE

Requested by:

APPROVED:

M. I. Tenand Date W. J. Thornton Date

MES/sb June 10, 1969 ملحوس د

AUTHORITY FOR EXPENDITURE MURPHY OIL CORPORATION - EAST POPLAR UNIT NO. C SE SE Section 3, T28N, R5TE, Roosevelt County, Montana

PRESENT STATUS: Temporarily abandoned March 4, 1965.

HISTORY: Completed June 9, 1955 from the B-2 Zone. Depleted and watered out.

Workover No. 1: August, 1961 Squeezed the B-2 and recompleted in the B-1 Zone.

Workover No. 2: August, 1962 Acidized Unsuccessful. 3-/

Workover No. 3: November, 1962 Reacidized the B-l Zone Unsuccessful.

Workover No. 4: February, 1965 Shut the B-l Zone in with Bridge Plug.. Ran Cement Bond Log (good bond through Heath Sand). Perforated the Heath Sand 4945-50'. Swab tested 164 BFPD 100% Water. Latex Cement squeezed. Perforated the Heath Sand 4895-98'. Swab tested 109 BFPD 100% Water.

Structurally Heath Porosity

East Ponlar Unit No. 14

East Poplar Unit No. 15

-2774'

-2786'

PROPOSAL: Set C.I. Bridge Plug at 4893' top. Squeeze the Heath Sand perforations 4895-4898' with 50 sacks Latex. Perforate the Heath Sand 4877-4892.5', I hole per foot with 50 gram jets. Swab test. Acidize with 500 gallons 15% (if needed). Sand Frac with 8,000# sand and 4,000# beads and 50 gallons $G_{\rm M}$ Ban. (Expected production 50 BO and . 50 BW Pay out 10 months.)

ESTIMATED COST

Pulling Unit, 60 Hrs. at \$36.00 per hr.	\$ 2,175
4900' of 2-7/8" Class No. 1 Tubing at \$1.04 per it. (Stock)	\$ 5,100
Set Cament Retainer on W.L., Perforate	\$ 1,000
Block Squeeze with 500 sacks Latex Cement	\$ 1,250
500 Gallon Acid and Sand Frac	\$ 5,075
4800' of 7/3" and 3/4" Class No. 2 Rods and Pump at \$0.36 per ft. (Stock)	\$ 1,725
160 Peak Torque Pumping Unit, Motor and Constrols (Stock)	•
Tank Battery, l extra tank at "F" Battery - Move l tank from "J" Battery	
Purchase new Heater Treater	\$ 4,500
Misc. Labor, Trucking and Material	\$ 1,500
TOTAL EST IMATED COST	\$22,325
. APPORTIONMENT OF TOTAL FSTIMATED COST	

Murphy Oil Corporation	31.448470%	\$ 7,021
Placid Oil Company	33.545035%	\$ 7,489
Humble Oil and Refining Company	16.335860%	\$ 3,647
Phillips Petroleum Company	16.335860%	\$ 3,647
Munoco Company	2.096565%	\$ 468
C. F. Lundgren	. 238210%	\$ 53

APPROVAL OF EXPENDITURE

Requested by:

APPROVED:

	11-7-69			_	
M. T. James	Date	•	W. J. Thornton	 .	Date

MIJ/sb

November 7, 1909

(SUBMIT IN TRIPLICATE) ? -

TO

NOTICE!

THIS FORM, BECOMES A
PERMIT WHEN STAMPED
APPROVED BY AN AGENT
OF THE COMMISSION:

(0)

Address B-13 Behner Bldg, Billings, Mont

OIL AND GAS CONSERVATION COMMISSION $\widehat{\prod}$ OF THE STATE OF MONTANA

BILLINGS OR SHELBY

¥¥ 1.0 1955 🗒,

	Notice of Intention to Drill	<u> </u>	Subsequent Report of Water	Shut-off	
	Notice of Intention to Change Plans		Subsequent Report of Shoot	ng, Acidizing, Computing	
	Notice of Intention to Test Water Shut-off		Subsequent Report of Alteri	ng Casing R.E.C.E.	IVED -
	Notice of Intention to Redrill or Repair Well	O: ==	Subsequent Report of Redri	ling or Repair	
•	Notice of Intention to Shoot, Acidize, or Cement		Subsequent Report of Abana	lonment MAY 1	4 1055
. :	Notice of Intention to Pull or Alter Casing		Supplementary Well History		, C:
	Notice of Intention to Abandon Well	•	Report of Practuring	TOUT AND GAS GGNSFI	ROZZINIOO HOITEVE
					CONTANA - CILLINGS
	. (Indicate Above by C	beck Mark Na	sture of Report, Notice, or Ot		,
	American de albane e companio de parque de aprimeiro de l'america de l'america de l'america de l'appar aprimeir				;
			*	May 5	19_5
llo	wing is a { notice of intention to do work } c	on land { ov	wned } described as follo	ws:	•
			LEASE.E.	. U. (BLM-A-0122	244)
	MONTANA	Ro	oosevelt	Ea	ast Poplar
	(State)		(County)		(Field)
	No. 14 C SE SE Section 3		28N	51%	M.P.M.
-11					
e v		Southlind l isno.tyee ETAILS OF	e and 660 ft. $\left\{\begin{array}{l} \frac{1}{V} \\ \end{array}\right.$	ofEastline	e of Sec3
ie v ie e CAl	well is located	Southline l is not ye ETAILS OF ow size, weights s Shooting, Ac	e and 660 ft. { vertice the determined for the dete	ofEastline	e of Sec3
ne s ne e EAI (S)	elevation of the derrick floor above the sea level D CAREFULLY DE Tate names of and expected depths to objective sands; sho	Southline l isnotye ETAILS OF ow size. weight is Shooting, Ac	et and 660 ft. { vertical et determined 7 vertical et determined 7 vertical et determined 8 vertical et determined 8 vertical et determined 9 vert	ofEastline	e of Sec3
CSI OTH	elevation of the derrick floor above the sea level D CAREFULLY DE Tate names of and expected depths to objective sands; sho	Southline I isnotye CTAILS OF OW size. weights s Shooting, Ac DETAILS RE Of 9-5/8 00 feet s 5.50# cas	e and	of East line R sings: indicate mudding job th 400 sacks of the producing sor production so	EAD CAREFULIDOS, cementing points, and cement.
e s e e (Si orb	well is located	Southline I isnotye CTAILS OF OW size. weights s Shooting, Ac DETAILS RE Of 9-5/8 00 feet s 5.50# cas	et and	of East line R sings: indicate mudding job th 400 sacks of the producing sor production s	EAD CAREFULI cs. cementing points.
Signal Control of the	elevation of the derrick floor above the sea level of CAREFULLY DE tate names of and expected depths to objective sands; shore important proposed work, particularly all details result of the Madison formation. 5-1/2" 18 Adequate blow out preventers will	Southline I isnotye CTAILS OF OW size. weights s Shooting, Ac DETAILS RE Of 9-5/8 00 feet s 5.50# cas	et and	of East line R sings: indicate mudding job th 400 sacks of the producing sor production sor production so	EAD CAREFULIDES, cementing points.
e se e e e e e e e e e e e e e e e e e	well is located	Southline I isnotye CTAILS OF OW size. weights s Shooting, Ac DETAILS RE Of 9-5/8 00 feet s 5.50# cas	et and	of East line R sings: indicate mudding job th 400 sacks of the producing sor production sor production so DUNT P.	EAD CAREFUL section of string.

NOTE:-Reports on this Form to be submitted to the District Agent for Approval in Triplicate.

District Office Agent

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GENERAL RULES 201, 202, 213, 216, 219, 233.1

TO

OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA

THIS FORM BECOMES A PERMIT WHEN STAMPED APPROVED BY AN AGENT OF THE COMMISSION.

19.36 m

BILLINGS OR SHELBY

SUNDRY NOTICES AND REPORT OF WELCEIVEL

<u> </u>	1	
Subsequent Report of Water Shunginy 27-1955	ļ	7
Subsequent Report of Shooting, Acidizing, Cementing	:	ı
Subsequent Report of Altering Castus CONSERVATION COMMIS	SIGN	- -
- Subsequent Report of Reduling or Benete MANIANA ELL	162	١.
Subsequent Report of Abandonment	1 53.00	نا
Supplementary Well History	X 113	4
Report of Fracturing	rectly ;	r 13
	į	Ī
	Subsequent Report of Shooting, Addizing, Cementing Subsequent Report of Altering Council Subsequent Report of Restriction on Report of Restriction of Report of Restriction of Report of Abandonment Subsequent Report of Abandonment Supplementary Well History	Subsequent Report of Shooting, Acidizing, Cementing Subsequent Report of Altering Castas CONSERVATION COMMISSION - Subsequent Report of Remailing or Report MONIANA - CILLIES Subsequent Report of Abandonment Supplementary Well History Supplementary Well History

4	Notice of Intention to	Abandon Well	Report of Fracturing		Colrectly
	!				;
	<u> </u>	(Indicate Above by Check Mark P	Nature of Report, Notice, or	Other Data)	1
			;	May 23, 1955	
Follow	ing is a { notice report	of intention to do work of work done on land	owned } described as fol	lows:	
	3		LEASE E	.P.U. (BIM-A-012	24 4)
	4	ANA ROO			ŧ
	: (State	E) `	(County)		(Field)
Well N	vo. 14	SE SE Section 3	28 <u>n</u> -	51E	M.P.M.
		(m. seci)	(Township)	(Range	Meridian)
The we	66 ell is located	0 . $\{x_{\widetilde{N}}, \}$ ofli	ne andft. }	W of East	e of Sec
		ick floor above the sea level is20			

READ CAREFULLY

DETAILS OF PLAN OF WORK

READ CAREFULLY

idi 11. idi. 13. id

(State names of and expected depths to objective sands: show size, weights, and lengths of proposed casings: indicate mudding jobs, cementing points, and all other important proposed work, particularly all details results Shooting, Acidizing, Fracturing).

DETAILS OF WORK RESULT

Spudded at 2:00 A.M. 5-18-55. Ran 32 jts. 983.48' of 9-5/8", J-55, 36#, R-2, 8rd. thd. Standard C American casing. Landed 10' below RKB, Howco shoe at 993.48'. Cemented with 400 sacks regular cement with 2% CaCl2. Circulated 100 sacks cement. Bumped plug with 1000#. Float held OK. Plug down at 8:15 P.M., 5-20-55.

APPROVED USGS 5-31-55

APPROVED SUBJECT TO CONDITIONS SHOWN ON REVERSE.

Approved 6-1-55

Company MURPHY CORPORATION

By Harold Milam

Title Division Production Superintendent

District Office Agenti

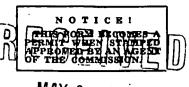
Address B-13 Behner Bldg., Billings, Mont.

NOTE:--Reports on this Form to be submitted to the District Agent for Approval in Triplicate.

(SUL N QUADRUPLICATE)

TO

OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA BILLINGS OR SHELBY



MAY 9 1961

SUNDRY NOTICES AND REPORT OF WELLS OIL AND GAS GUASERVATION COMMISSION

_								100 1000 100
ŀ	Notice of Intentio	n to Drill				Subsequent Report of Water Shut-of	OF THE STATE	
	Notice of Intentio	n to Change Plans				Subsequent Report of Shooting, Acid	lizing, Cementing	
·.	Notice of Intentio	n to Test Water Shi	at-off			Subsequent Report of Altering Casin	ıg	
	Notice of Intention	n to Redrill or Rep	air Well			Subsequent Report of Redrilling or I	Repair	
	Notice of Intention	n to Shoot, Acidize	, or Cemen	t X	×_	Subsequent Report of Abandonment		<u> </u>
	Notice of Intention	n to Pull or Alter C	asing			Supplementary Well History	DD	<u> </u>
1	Notice of Intentio	n to Abandon Well				Report of Fracturing	TO C	<u>. </u>
					- !		1	
				•		April 27 g_{ij}	THE GAS COM	- 1961, 19 61
ollow.	ing is a { notic	e of intention to c tookweeksdoore	lo work	on land	a {	April 27 9/2 SWHEEL RESERVED ASSESSED	THE STATE OF MONIGER.	(STA) Grand
'ollow	MON	TANA			a {	Roosevelt	THE STATE OF MONE BLM-A-02930	Poplar
••••••	MON	TANAState)	•••••	••••••••••••	•••••	Roosevelt (County)	BLM-A-02930	Poplar
	MON	TANAState)	•••••	•••••••	•••••	Roosevelt (County)	BLM-A-02930	Poplar
Vell N	MON (TANAState)	SE SE	Section	3	Roosevelt (County) 28N (Township)	East (Field (Range)	Poplar d) M.P.M. (Meridian)
Vell N	MON (TANAState)	SE SE	Section	3	Roosevelt (County)	East (Field (Range)	Poplar d) M.P.M. (Meridian)

READ CAREFULLY

DETAILS OF PLAN OF WORK

READ CAREFULLY

(State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work, particularly all details results Shooting, Acidizing, Fracturing.)

DETAILS OF WORK RESULT

Run Dia-Log through 2½" tbg., run G&N Log, set cement retainer on W.L. at 5652' (Microlog), squeeze w/50 sks. Latex cement, perforate the B Zone (5639-44') (5') w/Lane Wells "E" gun, acidize w/1000 gals. retarded acid through retrievable packer and swab test.

Present Status: Pumping 237 BFPD, 91% water, (21 BOPD 216 BWPD) from B Zone.
Perforations 5657-65'.

Approved subject to golditions on reverse of form

District Office Agent

Company. MURPHY CORPORATION

A. T. James

Title Field Production Superintendent

Address P. O. Box 547, Poplar, Montana

NOTE:-Reports on this Form to be submitted to the District Agent for Approval in Quadruplicate.

GENERAL RULES 201, 202, 213, 216, 219, 233.1

(SUBMIT IN QUADRUPLICATE)

TO

NOTICE! THE FORM BECOMES A PERMIT WHEN FRAMPED AHEDVED BY MT AGENT OF USE COMMISSION.

OIL AND GAS CONSERVATION COMMISSION (1) OF THE STATE OF MONTANA BILLINGS OR SHELBY

SUNDRY NOTICES AND REPORT OF WELLSIL AND RAS DOUBLES

		OF THE STATE OF MCVT.
Notice of Intention to Drill		OF THE STATE OF MONTANA.
Notice of Intention to Change Plans	х	Subsequent Report of Shooting, Acidizing, Cementing
Notice of Intention to Test Water Shut-off	х	Subsequent Report of Altering Casing
Notice of Intention to Redrill or Repair Well		Subsequent Report of Redrilling or Repair
Notice of Intention to Shoot, Acidize, or Cement	х	Subsequent Report of Abandonment
Notice of Intention to Pull or Alter Casing		Supplementary Well History
Notice of Intention to Abandon Well		Report of Fracturing
(Indicate Above by Check	Mark Na	June 23,
ollowing is a { notice of intention to do work } on	land {	leased described as follows:
		LEASE BLM-A-029305-A
MONTANA	R	oosevelt East Poplar Unit
(Diane)		(Fleig)
Vell No. 14 SE SE Section 3	· • • • • • • • • • • • • • • • • • • •	28N 51E (Township) (Range) (Meridian)
he well is located	line	ϵ and 660 ft. from $\{E\}$ line of Sec. 3
		•
The elevation of the derrick floor above the sea level	el is	2088' Gr. DECEIVED
EAD CAREFULLY DETAIL	LS OF 1	PLAN OF WORK 1, 2 , 198 READ CAREFULL
(State names of and expected depths to objective sands: sh	ow size. v	weights, and lengths of proposed casings; indicate mudding jobs, comently
oints, and all other important proposed work, particularly all	details r	OF WORK OF THE STATE OF MONTARIA - BLC
	RE:	SULT
o supersede our Notice of Intention of	E Apri	1 27, 1961.
atex cement through retrievable packer gun. Acidize w/500 gals retarded acid to handle, perforate B Zone 5640-43' w/	r, dri and s jet n -43' w	queeze B Zone perforation 5657-65' w/50 sks 11 out and reperforate 5658-61' w/jet notch wab test. If fluid volume is not too high otch gun. If perforations 5640-43' and 5657/500 gals retarded acid, swab test and produce-mingled.
approved subject to conditions on reverse of form Pate JUN 27 1961		Company MURPHY CORPORATION By Field Production Superintendent

NOTE:-Reports on this Form to be submitted to the District Agent for Approval in Quadruplicate.

District Office Agent

- 2-28-65 Perforated with Schlumberger through Tubing Magnet Gun 4945' to 4950', 2 holes per foot.
- 3-1-65 No pressure on tubing. Ran swab. Swabbed tubing to 4918' (top of Model "R" Packer). Swabbed 8 hours. Swab test as follows:

lst h	ır.	Rate	of	136	BFPD			100%	Salt	Water
2nd h	ır.	Rate	of	164	BFPD					Water
3rd h	ır.	Rate	of	192	BFPD			100%	Salt	Water
4th h		Rate	of	164	BFPD		<i>:</i> _	100%	Salt	Water
5th b	ır.	Rate	of	164	BFPD	1*.4		100%	Salt	Water
6th h	ır.	Rate	of	164	BFPD			100%	Salt	Water
7th h	ır.	Rate	of	164	BFPD			100%	Salt	Water
8th b	ır.	Rate	of	164	BFPD			100%	Salt	Water

Chlorides 38,000 PPM

- 3-2-65 Squeezed the Heath Sand perforations 4945'-4950' w/50 sacks of Latex Cement.
- 3-3-65 Perforated Heath Sand with Schlumberger through Tubing Magnet Gun 4894'-4898', 2 holes per foot. Reset packer from 4780' to 4878'. Ran swab. Swab test as follows:

1st	hr.	150	BFPD	99%	Water	Cut	1.5	BOPD.	148.5	BWPD
2nd	hr.	137	BFPD	99%	Water	Cut		BOPD,		BWPD
3rd	hr.	109	BFPD	100%	Water	Cut		•		
4th	hr.	109	BFPD	100%	Water	Cut				
5th	hr.	109	BFPD	100%	Water	Cut				

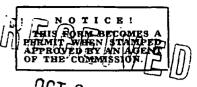
Tubing filled overnight. Did not flow. No oil on top of fluid.

3-4-65 Temporarily Abandoned.

(SUBMIT IN QUADRUPLICATE)

TO

OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA BILLINGS OR SHELBY



OCT 2 4 1961

SUNDRY NOTICES AND REPORT OF WELLS

Notice of Intention to Drill	Subsequent Report of Water Shut-off 2 2 - 3	inga Ika
Notice of Intention to Change Plans	Subsequent Report of Shooting, Acidizing, Cementing	
Notice of Intention to Test Water Shut-off	Subsequent Report of Altering Casing	
Notice of Intention to Redrill or Repair Well	Subsequent Report of Redrilling or Repair	
Notice of Intention to Shoot, Acidize, or Cement	Subsequent Report of Abandonment	
Notice of Intention to Pull or Alter Casing	Supplementary Well History	XX [*]
Notice of Intention to Abandon Well	Report of Fracturing	

· · · · · · · · · · · · · · · · · · ·	(Indicate Above by Check	Mark Nature of Report, Notice, or Other Date	a)	
	· · · ·		ctober 17,	19 6
Following is a repor	t of work done	land leased described as follows:		
		LEASE BLM-A	-029305A	•••••
MON	TANA	Roosevelt	East	Poplar
(State)	(County)	(Field)	
Well No.14	SE SE Section 3	28N	51 <u>E</u>	
	(m. sec.)	(Township)	(Range)	(Meridian)
The well is located	660 ft. from { XX }	line andft. from	E }line o	f Sec3
(Locate accurately on	Plat on back of this form the well le	ocation, and show lease boundary.)		
The elevation of the	derrick floor above the sea leve	el is2088 gr.,		
READ CAREFULLY	DETAI	LS OF PLAN OF WORK	READ	CAREFULLY
(State names of and e	xpected depths to objective sands; sh	ow size, weights, and lengths of proposed casin	igs; indicate mudding	jobs, cementing

RESULT

points, and all other important proposed work, particularly all details results Shooting, Acidizing, Fracturing.)

DETAILS OF WORK

See attached sheets

RECEIVED

JCT 1 8 1961

CH AND GIR CHARGENIAL ON COMMISSION OF THE STATE OF MUNIAMA - BILLINGS

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Approved subject	to conditions on r	0- 19-67 everse of form	
Date 12 - 2.	3-6/		
Date 19-2. By Luc	1 Riha	S/	
<i>y</i>	8	Title	
	District Office	Agent	

Company	MURPHY CUI	KPUKATION	
Ву		10 1 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
Title Field	Produc∉ion Su	perintend	lent ::
Address Box	547. Poplar	, Montana	
			44.11.

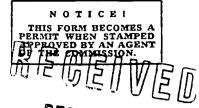
NOTE:-Reports on this Form to be submitted to the District Agent for Approval in Quadruplicate.

10M··

(SUBMIT IN QUADRUPLICATE)

TO

OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA BILLINGS OR SHELBY



SUNDRY NOTICES AND REPORT OF WELLS

DEC 1 0 1962

		<u>.</u> ,	· · · · · · · · · · · · · · · · · · ·	
Notice of Intention to Drill		Subsequent Report of Water	Shut-off of The	COMSERVATION COMMISSIN
Notice of Intention to Change Plans		Subsequent Report of Shoot	ing, Acidizing, Cement	COASCAVATION COLEMISSING
Notice of Intention to Test Water Shut-off		Subsequent Report of Alter	ing Casing	744
Notice of Intention to Bedrill or Repair Well		Subsequent Report of Redri	lling or Repair	
Notice of Intention to Shoot, Acidize, or Cement	xx	Subsequent Report of Aban	donment	
Notice of Intention to Pull or Alter Casing		Supplementary Well History		
Notice of Intention to Abandon Well		Report of Fracturing		
(Indicate Above by Check	Mark Na	ture of Report, Notice, or Oth-	er Data)	'
		Decemb	er 5	1962
Following is a { notice of intention to do work } on	land {			
		LEASE	BLM-A-029305	<u> </u>
MONTANA	Poo	saval t	Rac+ 1	Ponlar
(State)	AUQ	(County)		Field)
Well No. 14 SE SE Section	3	T28N	១51 ជ	мрм
(m. sec.)	٠	(Township)	(Range)	(Meridian)
The well is located	line	and 660 ft f	rom E 1	ing of Sec. 3
The wen is located	me	anu	10111) XX /	nie or sec
(Locate accurately on Plat on back of this form the well le	ocation, a	nd show lease boundary.)	RECEI	VED
The elevation of the derrick floor above the sea leve	el is	2088 ft.		
				1962
READ CAREFULLY DETAIL	LS OF I	PLAN OF WORK	ULU 9 RI	1962 EAD CAREFULLY
(State names of and expected depths to objective sands; sh points, and all other important proposed work, particularly all	ow size, v l details r	veights, and lengths of propose esults Shooting, Acidizing, Fra	diensingskindisateknik Griffe State of Mun	ivus : Airriung qqiba jobs oddientina
		OF WORK		
	RE	SULT		
To increase production. Displace into adomite fluid loss aditive added. Followell FLA - X2 (J-208 fluid loss additive retrievable packer. Twin diesel pump acid and pump test.	low w/ tive)	3000 gals. Dowell r added to acid. Aci	etarded acid was dize through a	w/150# of model "R"
Approved subject to conditions on reverse of form		CompanyMurphy	Corporation	
rippiot an suspect to conditions on reverse or form		101111	11	
Date 13-7-62		Ву. []	me	*·····
(14) ethi		mai 13 01 d 10 - 0 du	ction Superin	tandänt
Title	••••••	Title ####################################	፦ሥተለዝ"ማዝ ስ ዴድ <i>ነነ</i> ነነ	remodir
District Office Agent		Addres Poplar	, Montana	

(SUBMIT IN QUADRUPLICATE)

TO

OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA **BILLINGS OR SHELBY**



SEP 23 1963

SUNDRY NOTICES AND REPORT OF WELLS

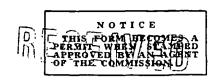
MUZZERMIN NUKAYAKAYAKUN COMBUSSION OF THE STATE OF MUNICIPAL

Notice of Intention to Drill	1	11		
		Subsequent Report of W	ater Shut-off	
Notice of Intention to Change E	Plans	Subsequent Report of Sh	ooting, Acidizing, Cementing	XXXXXXX
Notice of Intention to Test Water	er Shut-off	Subsequent Report of A	ltering Casing	
Notice of Intention to Redrill o	r Repair Well	Subsequent Report of R	edrilling or Repair	<u> </u>
Notice of Intention to Shoot, A	cidize, or Cement	Subsequent Report of A	bandonment	
Notice of Intention to Pull or A	lter Casing	Supplementary Well His	tory	<u> </u>
Notice of Intention to Abandon	Well	Report of Fracturing		,
(In	dicate Above by Check Mark		Other Data) September 17	
ollowing is a { matisus afcinitential report of work do	mbodowowk (-	
llowing is a report of work do	on land			
		LEASE	A-029305A	
		Dagage 1 t	Post Don	las IInd
MONTANA (State)		(County)	East Fol	
-u sr- 1/4	C SE SE Section 3	28N	51 r	мрм
ell No. 14	(m. sec.)	(Township)	(Range)	(Meridian)
e well is located 660	ft from∫ 🛣 \	and 660	t from E line	of Son 3
e wen is located	t. Hom) s /	ne anu	it. Home	or sec
(Locate accurately on Plat on back	of this form the well location,	and show lease boundary.)	D B // B (1 / C	*
(Locate accurately on Plat on back e elevation of the derrick floo	r above the sea level 🕏	2088		, D
AD CAREFULLY	DETAILS OF	PLAN OF WORK	SEP 20 1966An	CAREFU
(State names of and expected depth				
ints, and all other important propose		results Shooting, Acidizing;	Fracturing)	いこここい
		S OF WORK	y ng chili di menung 🕟 E	.gungs
	R	ESULT		
	FCOOL 7/11-1			
with 1500#. Held good acid with FLA X-2 J-2 added and pump ahead First 4 bbls. acid at rate. Injected remains 2200#. Let acid set hour at the rate of 2 and spaced 2-1/2" x 2 Pumping at the rate of 2 and spaced 2-1/2" x 2 pumping at the rate of 2 and spaced 2-1/2" x 2 pumping at the rate of 2 and spaced 2-1/2" x 2 pumping at the rate of 2 and spaced 2-1/2" x 2 pumping at the rate of 2 and 3 paced 2-1/2" x 2 pumping at the rate of 2 and 3 paced 2-1/2" x 2 pumping at the rate of 2 and 3 paced 2-1/2" x 2 pumping at the rate of 2 and 3 paced 2-1/2" x 2 pumping at the rate of 2 pumping at the rate of 2 pumping at the rate of 2 pumping 3 pumping	od. Acidized B Zond 208. Added mixed 10 of acid. Pumped Add t rate of 1/2 BPM and inder of acid at rate 1 hour on form. Sond 22 BPH 95-98% salt was 20" conv. pump at 545	ooo gals lease crudomite and oil at 3500#. Formation of 4.5 BPM at 3 tarted swabbing. Vater with slight 50'. Started pump	00 gallons Dowell mode with 100# adomit rate 3/4 BPM at 350 n broke, increased 200#. Bleed down p Swabbed 5 hours. I acid taste. Ran ro ing at 11:00 AM on	retarded ce 00#. pump press. ast
with 1500#. Held good acid with FLA X-2 J-2 added and pump ahead First 4 bbls. acid at rate. Injected remains 2200#. Let acid set hour at the rate of 2 and spaced 2-1/2" x 2 Pumping at the rate of 2 and spaced 2-1/2" x 2 Pumping at the rate of 2 and spaced 2-1/2" x 2 Pumping at the rate of 2 and spaced 2-1/2" x 2 Pumping at the rate of 2 and 3 paced 2-1/2" x 2 Pumping at the rate of 2 and 3 paced 2-1/2" x 2 Pumping at the rate of 2 and 3 paced 2-1/2" x 2 Pumping at the rate of 2 and 3 paced 2-1/2" x 2 Pumping at the rate of 2 and 3 paced 2 pace	od. Acidized B Zond 208. Added mixed 10 of acid. Pumped Ad t rate of 1/2 BPM and inder of acid at rate 1 hour on form. St 22 BPH 95-98% salt was 2" conv. pump at 54: of 301 BFPD, 96% was	e 5640-43' with 30 000 gals lease crudomite and oil at 3500#. Formations of 4.5 BPM at 3 tarted swabbing. Water with slight 50'. Started pumpter, (12 BO, 289 B	00 gallons Dowell mode with 100# adomit rate 3/4 BPM at 350 n broke, increased 200#. Bleed down p Swabbed 5 hours. I acid taste. Ran ro ing at 11:00 AM on	retarded ce 00#. pump press. ast
with 1500#. Held good acid with FLA X-2 J-2 added and pump ahead First 4 bbls. acid at rate. Injected remains 2200#. Let acid set hour at the rate of 2 and spaced 2-1/2" x 2	od. Acidized B Zond 208. Added mixed 10 of acid. Pumped Ad t rate of 1/2 BPM and inder of acid at rate 1 hour on form. St 22 BPH 95-98% salt was 2" conv. pump at 54: of 301 BFPD, 96% was	e 5640-43' with 30 000 gals lease crudomite and oil at 3500#. Formations of 4.5 BPM at 3 tarted swabbing. water with slight 50'. Started pumper, (12 BO, 289 B	00 gallons Dowell mode with 100# adomit rate 3/4 BPM at 350 m broke, increased 200#. Bleed down possible 5 hours. I acid taste. Ran roing at 11:00 AM on W).	retarded ce 00#. pump press. ast
with 1500#. Held good acid with FLA X-2 J-2 added and pump ahead First 4 bbls. acid at rate. Injected remains 2200#. Let acid set hour at the rate of 2 and spaced 2-1/2" x 2 Pumping at the rate of 2 and spaced 2-1/2" x 2 Pumping at the rate of 2 and spaced 2-1/2" x 2 Pumping at the rate of 2 and spaced 2-1/2" x 2 Pumping at the rate of 2 and 3 paced 2-1/2" x 2 Pumping at the rate of 2 and 3 paced 2-1/2" x 2 Pumping at the rate of 2 and 3 paced 2-1/2" x 2 Pumping at the rate of 3 paced 2 pumping at the 3 paced 2 paced 2 pumping at the 3 paced 2 pace	od. Acidized B Zond 208. Added mixed 10 of acid. Pumped Ad t rate of 1/2 BPM and inder of acid at rate 1 hour on form. St 22 BPH 95-98% salt was 2" conv. pump at 54: of 301 BFPD, 96% was	e 5640-43' with 30 000 gals lease cru domite and oil at t 3500#. Formatio te of 4.5 BPM at 3 tarted swabbing. water with slight 50'. Started pump ter, (12 BO, 289 B	00 gallons Dowell mode with 100# adomit rate 3/4 BPM at 350 m broke, increased 200#. Bleed down possible 5 hours. I acid taste. Ran roing at 11:00 AM on W).	retarded ce 00#. pump oress. ast ods 11-29-6

NOTE:-Reports on this Form to be submitted to the District Agent for Approval in Quadruplicate.

(SUBMIT IN QUADRUPLICATE)

TO



OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA BILLINGS OR SHELBY

SUNDRY NOTICES AND REPORT OF WELLS

20NDK1 NO	IICES A	ND REPORT OF WELLS
Notice of Intention to Drill		Subsequent Report of Water Shut-off
Notice of Intention to Change Plans		Subsequent Report of Shooting, Acidizing, Cementing
Notice of Intention to Test Water Shut-off		Subsequent Report of Altering Casing
Notice of Intention to Redrill or Repair Well		Subsequent Report of Redrilling or Repair
Notice of Intention to Shoot, Acidize, or Cement		Subsequent Report of Abandonment
Notice of Intention to Pull or Alter Casing	<u> </u>	Supplementary Well History
Notice of Intention to Abandon Well	<u>-, </u>	Report of Fracturing
Workover No. 4	XXX	57

March 1 1965 Following is a notice of intention to do work on land XXXXX described as follows: MONTANA Roosevelt East Poplar Uni (County) (Field) C SE SE Section 3 28N 51E MPM (Township) (Range) (Meridian) $\operatorname{t.f.from} \left\{ \begin{array}{c} XXXX \\ XXX \end{array} \right\}$ line and $\begin{array}{c} 660 \\ \end{array}$ ft. from $\left\{ \begin{array}{c} E \\ XXXX \end{array} \right\}$ line of Sec. The well is located 660 LOCATE ACCURATELY ON PLAT ON BACK OF THIS FORM THE WELL LOCATION AND SHOW LEASE BOUNDARY The elevation of the derrick floor above the sea level is _____2088 MAR 4 READ CAREFULLY READ CAREFULLY DETAILS OF PLAN OF WORK (State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings; indicates mudding jobs, cementing points, and all other important proposed work, particularly all details results Shooting. Addizing Practuring OF THE STATE OF HONTANA . SILLINGS DETAILS OF WORK RESULT Latest Test: Pumping from the B-1 Zone, perforations 6540-6543'. December 9, 1964 well test - pumping at the rate of 251 BFPD 97% water, 8 BOPD, 243 BWPD - Uneconomical. Proposal: To Test the Heath Sand. Run Cement Bond Log, set C.I. Bridge Plug w/l sk. cmt. on top on W.L. at 5550' (above salt section). Perforate the 2nd stringer of the Heath Sand 4945 to 4950, 2 holes per ft.. Swab test the Sand Frac if needed to increase fluid. If the 2nd stringer of the Heath Sand is uneconomical squeeze w/Latex Cmt. and Sand Notch the first stringer of the Heath Sand 4895 and 4896 . Swab test and Sand Frac if needed to increase fluid. All measurment G&N Log and assuming that the cement is bonded through the Heath Sand. conditions on reverse of form Company MURPHY OIL CORPORATION Production Superintendent Ву

NOTE:-Reports on this Form to be submitted to the District Agent for Approval in Quadruplicate.

District Office Agent

Address P.O. Box 547 Poplar, Montana

8. I hereby certify that the SIGNED			title F \$4	1d Production S	perintende	nto <u>M</u> a	rch 1, 19
8. I hereby certify that th	e foregoing is						· ·
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945' to 4950', 2	holes p	er ft Swe	b test &	nd Sand Frac if	needed to	incresse	fluid.
roposal: To Tes n top on W.L. as				Bond Log, set (
			•		•		
all test - pump	ming at th	e rate of 25	me, peri 1 BPPD	orations 6540-6! 97% water, 8 BOI	7D, 243 BWP	D - Unec	onomical.
nent to this work.)			•				·
7. DESCRIBE PROPOSED OR Coproposed work. If w	OMPLETED OPE	BATIONS (Clearly Statements)	te all pertinent				
(Other) Workove		PHANGE PLANS	K XX	(Other)(Norm: Report	results of multip Recompletion Rep	le completion	on Well
SHOOT OR ACIDIZE		BANDON*		SHOOTING OR ACIDIZ	ING	ABANDONME	NT*
FRACTURE TREAT		ULTIPLE COMPLETE	<u> </u>	FRACTURE TREATMEN	TT	ALTERING	
TEST WATER SHUT-OFF		ULL ÖR ALTER CASIN		WATER SHUT-OFF		REPAIRING	WELL
NOT	HE OF INTEN		. Indicate 14	divise of Notice, Repo	SUBSEQUENT REPO		•
8.	Chack An	<u>'</u>	····	ature of Notice, Repo			
4. PERMIT NO.		15. ELEVATIONS (Sh		RT, GR, etc.)		TY OR PARISI	H 13. STATE
						, R51E	
660' from 8 line	and 660	' from E lin	ie.			SK Sect	
At surface				BILLINGS, MONT	KNA L	Poplar	DIE AND
Dox 547 LOCATION OF WELL (Rep See also space 17 below.	Poplar, ort focation cl	early and in accorda	nce with any	tate requirements.*	O. PIEL	D AND POOL, C	OR WILDCAT
. ADDRESS OF OPERATOR	5.			MAR 4 196	5 RPU.	ио. 10. 14	
MURPHY OIL CORPO	RATION L	/				· · · · · · · · · · · · · · · · · · ·	<i>,</i>
NAME OF OPERATOR	OTHER	20°		RECEIVED		OR LEASE NA	
WELL KEN GAS WELL)			U. S. GEOLOGICAL SU	RVEY 7. UNIT	Poplar V	
	m for proposi se "APPLICA	als to drill or to dee TION FOR PERMIT	pen or plug ba	ck to a different reservoir.	3000	Set	;
		CES WIND VE	PORTS C	N WELLS			
		CEC AND DE			- A 70 %	LOTTE	E OR TRIBE NAS
SUND	RY NOTI	EOLOGICAL S	URVEY	OR (Other instruct verse side)	X-025	305A LOTTE	E OR TRIBE NAV

(SUBMIT IN QUADRUPLICATE)

OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA **BILLINGS OR SHELBY**

SUNDRY NOTICES AND REPORT OF WELLS



7

JUL 26 1965

THE AND SEAS COMMERCES CONTRIBUTIONS OF THE STATE OF SHIP WE

Notice of Intention to Drill Subsequent Report of Water Shut-off Notice of Intention to Change Plans Subsequent Report of Shooting, Acidizing, Cementing Notice of Intention to Test Water Shut-off Subsequent Report of Altering Casing Notice of Intention to Redrill or Repair Well Subsequent Report of Redrilling or Repair XX Notice of Intention to Shoot, Acidize, or Cement Subsequent Report of Abandonment Temp. Notice of Intention to Pull or Alter Casing Supplementary Well History

to the state of th		
Notice of Intention to Abandon Well	Report of Fracturing	
(Indicate Above by Che	ck Mark Nature of Report, Notice, or	Other Data)
	***************************************	March 4 , 1965
ollowing is a report of work done	on land XXXXXX described	as follows:
report of work done		A-029305A
MONTANA(State)	Roosevelt (County)	East Poplar Unit (Field)
all No. FDII NO. 1/4 C. SE SE SE	action 3 28N	·
ell No. EPU No. 14 C SE SE Se (m. sec.)	(Township)	(Range) (Meridian)
ne well is located 660 ft. from S	line and 660 ft. from	a E line of Sec. 3
CATE ACCURATELY ON PLAT ON BACK OF		
ne elevation of the derrick floor above the sea le		
te elevation of the derrick floor above the sea le	2000	· · · · · · · · · · · · · · · · · · ·
EAD CAREFULLY DETA	AILS OF PLAN OF WORK	READ CAREFULLY
(State names of and expected depths to objective sa-		
menting points, and all other important proposed work,		g, Acidizing, Fracturing.)
	DETAILS OF WORK RESULT	:D = -
	11_5021	RECEIVED
		MAR 8 1965
		OF THE OTHER OF MENTARA - BILLIN
		-1- -1
	•	
See Att	tached Sheet	
proved Jubject is conditions on reverse of for		
	m Company MURP	HY OIL CORPORATION
1-23-65	Company MURPI	HY OIL CORPORATION
ate 1-23-65	ву Т	OIL CORPORATION Constitution Superintendent

Approved Subject of gonditions on reverse of form	Company MURPHY OIL CORPORATION
Date 4-23-65	By My Carries
By Shull /hg Sugl	Title Field Production Superintendent
Title District Office Agent	Address P.O. Box 547 Poplar, Montana

NOTE:-Reports on this Form to be submitted to the District Agent for Approval in Quadruplicate.

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m 9-331 ay 1963)	Ţ	ITED STATES	SUBMIT IN TREE	CATE* Form approved. Budget Bureau No. 42-R14
ly 1965)		_NT OF THE INTERI		on re 5. LEASE DESIGNATION AND SERIAL NO.
	Gi	EOLOGICAL SURVEY	*** <i>J</i>	BLM-A-029305A
CLINI	DRY NOTIC	CES AND REPORTS C	NI WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAM
		ls to drill or to deepen or plug be TION FOR PERMIT—" for such pro		
	Use "APPLICAT	TION FOR PERMIT—" for such pr	oposals.)	
WELL WELL	OTHER	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		7. UNIT AGREEMENT NAME
NAME OF OPERATOR	U VIABR			8. FARM OR LEASE NAME
MURPHY OIL C	IORPORATION			
ADDRESS OF OPERATOR			. 24 - 4 ()	9. WELL NO.
P.O. Box 547	Popl	ar Montana early and in accordance with any i		RPU No. 14
See also space 17 belo	w.)	sarry and in accordance with any		10. FIELD AND POOL, OR WILDCAT
	_:			Rast Poplar 11. sec., T., R., M., OR BLK. AND
660' from 8	line and 6	60' from E line 1812	is .	SURVEY OR AREA
		a service and the service of the ser		C SE SE Section 3,
		15. BLEVATIONS (Show whether DF,	· · · · · · · · · · · · · · · · · · ·	12, COUNTY OR PARISH 13. STATE
·	·· ·	2088 Gr		Roosevlet Montana
·	Check Ap	propriate Box To Indicate N	ature of Notice, Repor	t, or Other Data
1	NOTICE OF INTENT	ion to:	1	SUBSEQUENT REPORT OF:
TEST WATER SHUT-OF	FF P	OLL OB ALTER CASING	WATER SHUT-OFF	REPAIRING WELL
FRACTURE TREAT		ULTIPLE COMPLETE .	FRACTURE TREATMEN	
SHOOT OR ACIDIZE	A1	BANDON®	SHOOTING OR ACIDIZE	NG Temp ABANDONMENT XX
REPAIR WELL	cr	HANGE PLANS	(Other)	
		1 1		results of multiple completion on Well
(Other) DESCRIBE PROPOSED OF proposed work. If nent to this work.)	COMPLETED OPER well is direction	ATIONS (Clearly state all pertinent hally drilled; give subsurface located)	(Note: Report Completion or l	results of multiple completion on Well Recompletion Report and Log form.) t dates, including estimated date of starting e vertical depths for all markers and zones pe
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DESCRIBE PROPOSED OF proposed work. If	R COMPLETED OPER	Sae Attached She	(Note: Report Completion or It details, and give pertinentions and measured and true	t dates, including estimated date of starting exertical depths for all markers and zones pe
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DESCRIBE PROPOSED OF proposed work. If	R COMPLETED OPER		(Note: Report Completion or It details, and give pertinentions and measured and true	t dates, including estimated date of starting exertical depths for all markers and zones pe
DESCRIBE PROPOSED OF proposed work. If	R COMPLETED OPER		(Note: Report Completion or It details, and give pertinentions and measured and true	t dates, including estimated date of starting exertical depths for all markers and zones pe
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DESCRIBE PROPOSED OF proposed work. If	R COMPLETED OPER		(Note: Report Completion or It details, and give pertinentions and measured and true	t dates, including estimated date of starting exertical depths for all markers and zones pe
DESCRIBE PROPOSED OF proposed work. If	R COMPLETED OPER		(Note: Report Completion or It details, and give pertinentions and measured and true	t dates, including estimated date of starting exertical depths for all markers and zones pe
DESCRIBE PROPOSED OF proposed work. If nent to this work.)		See Attached She	(Note: Report Completion or It details, and give pertinentions and measured and true	t dates, including estimated date of starting exertical depths for all markers and zones pe
DESCRIBE PROPOSED OF proposed work. If nent to this work.)	the foregoing is	Sas Attached She	(Note: Report Completion or It details, and give pertinentions and measured and true	t dates, including estimated date of starting exertical depths for all markers and zones pe
DESCRIBE PROPOSED OF proposed work. If nent to this work.)		See Attached She	(Note: Report Completion or It details, and give pertinentions and measured and true	t dates, including estimated date of starting evertical depths, for all markers and zones per MAR 8 1965 BILLINGS, MONTANA
DESCRIBE PROPOSED OF proposed work. If nent to this work.)	the foregoing is SIGNED BY	See Attached She true and correct M. T. JAMES TITLE	(Note: Report Completion or) to details, and give pertinentions and measured and true	t dates, including estimated date of starting evertical depths, for all markers and zones per MAR 8 1965 BILLINGS, MONTANA

- 2-28-65 Perforated with Schlumberger through Tubing Magnet Gun 4945' to 4950', 2 holes per foot.
- 3-1-63 No pressure on tubing. Ran swab. Swabbed tubing to 4918' (top of Model "R" Packer). Swabbed 8 hours. Swab test as follows:

	B. A & 104 BEEN	100% Salt Water
let br.	Rate of 136 BFFD	
2nd hr.	Rate of 164 BPPD	100% Salt Weter
3rd br.	Bate of 192 BFFD	190% Salt Water
4th br.	Exte of 164 MYPD	160% Selt Water
5th lir.	Bate of 164 AFFD	100% Salt Water
6th hr.	Rate of 164 HTTD	100% Salt Water
7th hr.	Rote of 164 BFPD	100% Salt Water
8th hr.	Rate of 164 BYFD	100% Salt Water

Chlorides 38,000 PFM

- 3-2-65 Squessed the Heath Sand perforations 4945'-4950' w/50 sacks of Latex Coment.
- 3-3-65 Perforated Heath Sand with Schlumberger through Tubing Hagnet Gun 4894'4898', 2 holes per foot. Reset packer from 4780' to 4878'. Ran swab.
 Swab test as follows:

Unbing filled overnight. Did not flow. We all on top of fluid.

3-4-65 Temporarily Abandoned.

(SUBMIT IN QUADRUPLICATE) TO

NOTICE THIS FORM BECOMES A PERMIT WHEN STAMPED APPROVED BY AN AGENT OF THE COMMISSION.

OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA **BILLINGS OR SHELBY**

SUNDRY NOTICES AND REPORT OF WELLS

Notice of Intention, to Drill	Subsequent Report of Water Shut-off	
Notice of Intention to Change Plans	Subsequent Report of Shooting, Acidizing, Cementing	
Notice of Intention to Test Water Shut-off	Subsequent Report of Altering Casing	
Notice of Intention to Redrill or Repair Well	Subsequent Report of Redrilling or Repair	
Notice of Intention to Shoot, Acidize, or Cement	Subsequent Report of Abandonment Temp.	X
Notice of Intention to Pull or Alter Casing	Supplementary Well History	
Notice of Intention to Abandon Well	Report of Fracturing	

		***************************************		, 19. 65
Following is a report of work done	on land leased	lack described as fo	llows:	
,	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	LEASEA.	029305A	
MONTANA(State)	Roseve	1Ė	Rant P	oplar Bait
Well No. RPU No. 14 C. SE SE S	iection 3	281	51R	HYH
The well is located ft. from S LOCATE ACCURATELY ON PLAT ON BACK O	line and	60ft. from	line of Sec	3
LOCATE ACCURATELY ON PLAT ON BACK O	F THIS FORM THE	WELL LOCATION	, AND SHOW LEA	SE BOUNDARY
The elevation of the derrick floor above the sea l	evel is2088		•	
READ CAREFULLY DET	TAILS OF PLAN O	F WORK	REA	D CAREFULLY
(State names of and expected depths to objective scementing points, and all other important proposed work				ate mudding jobs,
	DETAILS OF WO	RK		

MAR 8 1965

Oit. And was on one OF THE STATE OF MONTANA . DIELINGL

See Attached Sheet

Approved subject to conditions on reverse of form	Company MURPHY OIL CORPORATION
JUL 2 3 1965	Ву
By J. A. Hug, Supervisor Title	Title Field Production Superintendent
District Office Agent	Address P.O. Box 547 Poplar, Montane

NOTE:—Reports on this Form to be submitted to the District Agent for Approval in Operation of State.

WHEN USED AS PERMIT TO DRILL, THIS EXPIRES 90 10 M DATE.

IM DATE OF APPROVAL



1-28-65 Perforated with Schlumberger through Tubing Magnet Om 4945' to 4950', 2 holes per foot.

3-1-65 He pressure on tubing. Ren such. Suchbed tubing to 4918' (top of Model "R" Facker). Suchbed 8 hours. Such test as follows:

	Rate of 136 BFFD	100% Salt Water
let hr.	144 9450	100% Sals Water
2nd br.	Rate of 164 NVPD	100% Salt Water
ard hr.	Rate of 192 MITO	100% Sale Water
4th hr.	Rate of 164 BYTD	100y sare seces
	Rate of 164 BFFD	100% Salt Water
Sth hr.	Rate of 164 MTD	100% Salt Water
6th hr.	EAST OF SALES	100% Sale Water
7th hr.	Late of 164 MPD	100% Salt Water
Ach by.	Rate of 164 BYFD	TOAN SEE

Chloridge 38,000 FFN

3-2-65 Squeezed the Heath Sand perforations 4943'-4950' w/50 sacks of Later Comment.

3-3-65 Perforated Reath Send with Schlumberger through Tubing Magnet Gun 4894'-4598', 3 Loles Fix Inst. Reset packer from 4780' to 4878'. Rea such. Such test so follows:

Tubing filled oversight. Bid not flow. No oil on top of fluid.

3-4-65 Temporarily Abandened.



ومنح الم

CONDITIONS OF A	PROVAL IF ANY:	ADM-MINICIAIS	DATE MAR 3 7 1990
(This space for Pede	eral or State office use	ADM-Minerals	
SIGNED A	the foregoing is true and correct	District Manager	DATE March 22, 1990
	·	·	
		·	
		,	WAR 1990
are be	ing evaluated.		30 22 23 24 28 3 A
some w	ald like to leave this workovers that are being		
17. DESCRIBE PROPOSED OF PROPOSED WORK, I nent to this work.)	in COMPLETED OPERATIONS (Clearly state all perf (well in directionally drilled, give aubsurface	ment details, and give perfinent dates, locations and mensured and true vertica	including estimated date of starting any l depths for all markers and sones perti-
Other)	CHANGE PLANS	(Other) Tempora (Norr: Report results Completion or Recomple	of multiple completion on Well tion Report and Log form.)
TEST WATER SHUT-C PRACTICE TREAT SHOOT OF ACIDIZE	PULL OR ALTER CASING MULTIPLE COMPLETE ABANDON*	WATER SHUT-OFF FRACTURE TREATMENT SHOOTING OR ACHIELING	BEPAIRING WELL ALTEBING CASING ABANDONMENT*
	NOTICE OF INTENTION TO:	· · ·	ENT EBPORT OF:
16.	Check Appropriate Box To Indicate	te Nature of Natice Report of O	Roosevelt MT
14. PERMIT NO.	15. ELEVATIONS (Show wheth	er DF, RT, UR, etc.)	T28N, R51E
See also space 17 bel At surface			East Poplar Unit 11. SEC., T., B., M., OR BLE. AND BUSYNST OR ARMA C SE SE Section 3,
P.O. B		55	U. WBLL NO. 14 10. FIELD AND POOL, OR WILDCAT
2. NAME OF OPERATOR	Oil USA, Inc.	•	East Poplar Unit B FARM OR LEASE NAME East Poplar Unit
1	form for proposals to drill or to deepen or pl Use "APPLICATION FOR PERMIT" for su	cb proposals.)	Ft. Peck
	BUREAU OF LAND MANAGEM IDRY NOTICES AND REPORT	S ON WELLS	14202564047
(Notamber 1983) Unimerly 9-331)		SI'BMIT IN TRIPLICATES (Other Instructio in re-	Expires August 31, 1985 5. LEASE DESIGNATION AND SERIAL

*See Instructions on Reverse Side

Form 3160-5 (1)ecember 1989)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: September 30, 1990

Expires: September 30, 1990

5. Lease Designation and Serial No.

6. If Indian, Allottee or Tribe Name

14202564047

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.

Use "APPLICATION FOR PERMIT—" for such proposals

Ft. Peck
7. If Unit or CA, Agreement Designation

SUBMIT IN TRIPLICATE		7. If Unit or CA, Agreement Designation
i. Type of Well Soil Well Well Other		East Poplar Unit 8. Well Name and No.
2. Name of Operator		EPU No. 14
Murphy Oil USA, Inc.		9. API Well No.
3. Address and Telephone No.		0.504.8
P.O. Box 547, Poplar, MT	59255 768-3612	10. Field and Pool, or Exploratory Area
4 Locution of Well (Footage, Sec., T., R., M., or Survey De	scription)	East Poplar Unit
660' from south line and	660' from east line	11. County or Parish, State Roosevelt Montana
CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF N	NOTICE, REPORT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION
Notice of Inten	Abandonment Recompletion Plugging Back	Change of Plans New Construction Non-Routine Fracturing
Final Abandonment Notice	Casing Repair Altering Casing Other	Water Shut-Off Conversion to Injection Temporarily abandoned (Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)
13. Describe Proposed or Completed Operations (Clearly state al		g estimated date of starting any proposed work. If well is directionally drille is work.)*

We are doing a study on water flooding the Heath Formation. This well is perforated in the Heath zone. It would make a good candidate for the injector well.

At this time we would like to set a CIBP @ 4875' and test casing to 500#.



6928240
Date 10-10-90
Date <u>OCT 1.2 1990</u> See Atlached for Conditions of Approval

"the 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form 3160-5 (December 1989)

UNITED STATES DEPARTMENT OF THE INTERIOR

FORM APPROVED Budget Bureau No. 1004-0135 Expires: September 30, 1990

5. Lease Designation and Serial No.

BUREAU OF LAND MANAGEMENT 14202564047 SUNDRY NOTICES AND REPORTS ON WELLS 6. If Indian, Allottee or Tribe Name Do not use this form for proposals to drill or to deepen or reentry to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals Ft. Peck 7. If Unit or CA, Agreement Designation SUBMIT IN TRIPLICATE East Poplar Unit 1. Type of Well X Oil 8. Well Name and No. 2. Name of Operator EPU No. Murphy Oil USA, Inc. 3 Address and Telephone No. 05048 10. Field and Pool, or Exploratory Area P.O. Box 547, Poplar, MT 59255 768-3612 4. Location of Well (Footage, Sec., T., R., M., or Survey Description) East Poplar Unit 11. County or Parish, State 660' from south line and 660' from east line Roosevelt Montana CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA TYPE OF SUBMISSION TYPE OF ACTION Notice of Intent Abandonment Change of Plans Recompletion **New Construction** Subsequent Report Plugging Back Non-Routine Fracturing Casing Repair Water Shut-Off Final Abandonment Notice Altering Casing Conversion to Injection Temporarily abandoned Other (Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.) 11. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

10-24-90 Set CIBP @ 4870'

11-07-90 Pressure to 510# held 30 minutes

14. I hereby certify that the foregoing is true and correct District Manager Kaymi (This space for Fed ADM-Minerals Approved by

19 19 1 5 C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements representations as to any matter within its perisdiction,

Form 3160-5 (December 1989)

UNITED STATES DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPLICATE

give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

FORM APPROVED Budget Bureau No. 1004-0135 Expires: September 30, 1990

5. Lease Designation and Serial No.

14202564047

Peck 7. If Unit or CA, Agreement Designation

Ft.

SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill or to deepen or reentry to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals

6. If Indian, Allottee or Tribe Name

1. Type of Well		East Poplar Unit
Oil Gas Other	·	8. Well Name and No.
2. Name of Operator		EPU No. 14
Murphy Oil USA, Inc.		9. API Well No.
3. Address and Telephone No.		05048
P.O. Box 547, Poplar, MT 5	(768-3612)	10. Field and Pool, or Exploratory Area
4. Location of Well (Footage, Sec., T., R., M., or Survey Descri	ption)	East Poplar Unit
SE SE Section 3, T28N, R51		II. County or Parish, State Roosevelt Montana
CHECK APPROPRIATE BOX(s)	TO INDICATE NATURE OF NOTICE	, REPORT, OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF	ACTION
Notice of Intent	Abandonment	Change of Plans
·	Recompletion	New Construction
Subsequent Report	Plugging Back	Non-Routine Fracturing
	Casing Repair	Water Shut-Off
Final Abandonment Notice	Altering Casing	Conversion to Injection
		porarily Abandoned
	(Note: Re	port results of multiple completion on Well Completion or
		tion Report and Log form.)
13. Describe Proposed or Completed Operations (Clearly state all per	tinent details, and give pertinent dates, including estimated d	late of starting any proposed work. If well is directionally drille

A CIBP has been set @ 4870' and tested to 500#. We would like to retain this well for an injector well for the Heath Formation.



	\$ 67.82.12.51.61.
4. I hereby certify that the foregoing is true and correct Signed Raymans Ruelle Title District Manager	Date 11-15-91
Approved by Approved. if any:	Date NOV 1 9 1991
	See Attached for Contidions of Approval
17. IN C.S.C. Serion 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the representations as to any matter within its jurisdiction.	e United States any false, fictitious or fraudulent statements
*See Instruction on Reverse Side	

Final Abandonment Notice

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

5. Lease Designation and Serial-Normal

14202564047

Water Shut-Off

Dispose Water

Conversion to Injection

(Note: Report results of multiple completion on Well

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.

Lisa "APPLICATION FOR PERMIT—" for such proposals.

6. If Indian, Allottee or Tribe Name

Use "APPLICATION FO	R PERMIT—" for such proposals	Pt. Peck
SUBMIT IN TRIPLICATE		7. If Unit or CA, Agreement Designation
1. Type of Well		East Poplar Unit
Well Gas Other		8. Well Name and No.
2. Name of Operator		EPU_No. 14
_Murphy Oil USA, Inc.		9. API Well No.
3. Address and Telephone No.		05048
P.O. Box 547, Poplar, Mor	ntana 59255 (768-3612)	10. Field and Pool, or Exploratory Area
4. Location of Well (Footage, Sec., T., R., M., or Survey D		East Poplar Unit
		11. County or Parish, State
SE SE Section 3, T28N, R	SIE	Roosevelt
:		Montana
12. CHECK APPROPRIATE BOX	s) TO INDICATE NATURE OF NOTICE, REP	ORT, OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF ACTIO	N
Notice of Intent	Abandonment	Change of Plans
_	Recompletion	New Construction
Subsequent Report	Plugging Back	Non-Routine Fracturing

Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Casing Repair

Altering Casing

Temp.

Abandoned

We would like to retain this well for a Water Plood Injector well for the Heath Sand Formation. A CIBP was set at 4870' and tested to 500#.

1 BD2

The name of the City,

The City,

The City,

14. I hereby cefti) HICH WARD TO REEDE Signed RAYMOND REEDE	District Manager	Date
(This space for Federal or State office us	ADM - Minerals	NOV 3 0 1992
Approved by Conditions of approval if any:		See Attached for Conditions of Apparox

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

TYPE OF SUBMISSION

Notice of Intent

UNITED STATES DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT**

FORM APPROVED Budget Bureau No. 1004-0135 Expires: March 31, 1993

5. Lease Designation and Serial No.

14202564047

Change of Plans

SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill or to deepen or reentry to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals

6. If Indian, Allottee or Tribe Name

OSE AFFEIGATION FOR FERMIT— for such proposals	Ft. Peck
SUBMIT IN TRIPLICATE	7. If Unit or CA, Agreement Designation
1. Type of Well	East Poplar Unit
X Oil Gas Other	8. Well Name and No.
2. Name of Operator	EPU No. 14
Murphy Exploration & Production Company	9. API Well No.
3. Address and Telephone No.	05048
P.O. Box 547, Poplar, MT 59255 (768-3612)	10. Field and Pool, or Exploratory Area
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)	East Poplar Unit
SE SE Section 3, T28N, R51E	11. County or Parish, State Roosevelt Montana
12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE	REPORT, OR OTHER DATA

Recompletion **New Construction** Subsequent Report Plugging Back Non-Routine Fracturing Casing Repair Water Shut-Off Final Abandonment Notice Altering Casing Conversion to Injection Other Temp. Abandoned Dispose Water (Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

Abandonment

TYPE OF ACTION

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled. give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

We would like to retain this well as an injector well for the Heath Sand Formation. A CIBP was set at 4870' and tested to 500#.



14. I hereby certify that the foregoing is true and correct Signed Lumman Recule	_{Tide} District Manager	Date 10-19-93
(This space for Federal or State office use) Approved by All School School Conditions of Epproval, if any:	Acting ADM - Minerals	Date OCT 2 5 1993
Conditions of Spproval, if any:	Tin.	See Attached for Concilions of Approval

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

UNITED STATES DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT**

FORM APPROVED Budget Bureau No. 1004-0135 Expires: March 31, 1993

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_					_	

4202564047 6. If Indian, Allottee or Tribe Name

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

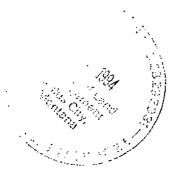
Ft. Peck

SUBMIT IN TRIPLICATE	7. If Unit or CA, Agreement Designation
1. Type of Well	East Poplar Unit
Oil Gas Other	8. Well Name and No.
2 Name of Operator	EPU No. 14
Murphy Exploration & Production Company	9. API Well No.
3. Address and Telephone No.	05048
P.O. Box 547, Poplar, MT 59255 (406-768-3612)	10. Field and Pool, or Exploratory Area
4. Location of Weli (Footage, Sec., Y., R., M., or Survey Description)	East Poplar Unit
SE SE Section 3, T28N, R51E	II. County or Parish, State Roosevelt Montana

12	CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, F	REPORT, OR OTHER DATA	
	TYPE OF SUBMISSION	TYPE OF ACTION		
	Notice of Intent	Abandonment	Change of Plans	
		Recompletion .	New Construction	
	Subsequent Report	Plugging Back	Non-Routine Fracturing	
	_	Casing Repair	Water Shut-Off	
	Final Abandonment Notice	Altering Casing	Conversion to Injection	
_		X Other Temp Abandoned	Dispose Water	

Completion or Recompletion Report and Log form.) 13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

We would like to ratain this well as an injector well for the Heath Sand Formation. A CIBP was set at 4870' and tested to 500#.



(Note: Report results of multiple completion on Well

14. I hereby certify that the foregoing is true and correct Signed A STATEST LET RESERVED.	_{Title} District Manager	Date 10-24-94
(This space for Federal or State office use) Approved to Nary alle Stene	ADM - Minerals	OCT 2 8 1994
Approved Mary alu Spence Conditions of approval, it any:		See Attached for Conditions of Approval

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED

Budget Bureau No. 1004-0135

Expires: March 31, 1993

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log (orm.)

Expires: March 31, 1993

5. Lease Designation and Serial No.

14202564047
6. If Indian, Attottee or Tribe Name

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.

Use "APPLICATION FOR PERMIT—" for such proposals

Ft. Peck

SUBMIT	IN TRIPLICATE	7. If Unit or CA, Agreement Designation
1. Type of Well Solition Gas Other	East Poplar Unit 8. Well Name and No. EPU No. 14 9. API Well No. 05048 10. Field and Pool, or Exploratory Area East Poplar Unit	
SE SE Section 3, T28N, E	R51E s) TO INDICATE NATURE OF NOTICE, REPO	11. County or Parish, State Roosevelt Montana
TYPE OF SUBMISSION	TYPE OF ACTIO	N :
Notice of Intent Subsequent Report Final Abandonment Notice	Abandonment Recompletion Plugging Back Casing Repair Altering Casing Other Temp. Abandoned	Change of Plans New Construction Non-Routine Fracturing Water Shut-Off Conversion to Injection Dispose Water

We are in the process of running some 3-D seismographic in the East Poplar Unit and would like to retain the status of temporarily

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled,

abandoned until the seismograph has been completed and evaluated.

give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*



		T. St. St.
14. I hereby certify that the foresign was no greet Signed RAYMOND REEDE	TitleDistrict Manager	Date 10/30/95
(This space for Federal or State office (150): Approved by Add 200	ADM - Minerals	NOV 9 1995
Conditions of approval, if any: See Attached for Conditions of Approval	Acung	

Fittle 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED

Budget Bureau No. 1004-0135

Expires: March 31, 1993

Expires: March 31, 1993

5. Lease Designation and Sorial No.

14202564047

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.

6. If Indian, Allottee or Tribe Name

Use "APPLICATION FOI	R PERMIT—" for such proposals	Fort Peck
SUBMIT	7. If Unit or CA, Agreement Designation	
I. Type of Well X Oil Well Gas Well Other 2. Name of Operator		East Poplar Unit 8. Well Name and No. EPU No. 14
Murphy Exploration & Pro 3. Address and Telephone No. P.O. Box 547, Poplar, Mt		9. API Well No. 25-085-05048 10. Field and Pool, or Exploratory Area
4. Location of Well (Footage, Sec., T., R., M., or Survey D 660' from the south line SE SE Section 3, T28N, R	East Poplar Unit 11. County or Parish, State Roosevelt Montana	
12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPO	RT, OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF ACTION	
Notice of Intent Subsequent Report Final Abandonment Notice	Abandonment Recompletion Plugging Back Casing Repair Altering Casing Other Temp. Abandon	Change of Plans New Construction Non-Routine Fracturing Water Shut-Off Conversion to Injection Dispose Water (Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)
	Il pertinent details, and give pertinent dates, including estimated date of startir cal depths for all markers and zones pertinent to this work.)*	

We would like to retain this well as temporarily abandoned until our drilling program has been completed and evaluated.



14. I hereby certif	ry untroblitate going it mailtain defrict BY RAYMOND REEDS	· Title _	District Manager	Date Nov. 20, 1996
Approved by		Title _	TEAM LEADER	JAN . 2: 1997
Conditions of	approval, if any: Sty Allached for Conditions of Approval			



UNITED STATES (November 1994) DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT** Lease Serial No. SUNDRY NOTICES AND REPORTS ON WELLS 14202564047 Do not use this form for proposals to drill or to re-enter an If Indian, Allottee or Tribe Name abandoned well. Use Form 3160-3 (APD) for such proposals. Fort Peck SUBMIT IN TRIPLICATE - Other Instructions on revi 7. If Unit or CA/Agreement, Name and/or No.

	TEIOATE - Ollion misus			Eact	Po	plar Unit
1. Type of Well Cit Oil Well Gas Well C	Other			8. Well No	me a	nd No.
2. Name of Operator Murphy Explorati	on & Production	Company	_	9. API We	II No.	
3a. Address P.O. Box 547 Poplar, Montana 59255-0547 3b. Phone No. (include area code) 406+768-3612					nd Poo	-05048
4. Location of Well (Footage, Sec.				East	Po	oplar Unit
SE SE Section 3, T28N, R51E 660' from the South line and 660' from the East line					II. County or Parish, State Roosevelt County, Montana	
12. CHECK AP	PROPRIATE BOX(ES) T	O INDICATE NATU	RE OF NOTICE, R	eport, o	R O	THER DATA
TYPE OF SUBMISSION	•	TY	PE OF ACTION			
Notice of Intent	Acidize Alter Casing	Deepen Deepen	Production (Star		00	Water Shut-Off Well Integrity
Subsequent Report	Casing Repair	New Construction	Recomplete		ā	Other
☐ Final Abandonment Notice	Change Plans Convert to Injection	Plug and Abandon Plug Back	Temporarily At	andon		
Attach the Bond under which t following completion of the inv	ectionally or recomplete horizonts he work will be performed or provolved operations. If the operation inal Abandonment Notices shall	ally, give subsurface location ovide the Bond No. on file on results in a multiple com	ns and measured and tr with BLM/BIA. Requipletion or recompletion	ue vertical dep ired subseque in a new inte	oths of nt reproval, s	and approximate duration thereof, fall pertinent markers and zones, orts shall be filed within 30 days a Form 3160-4 shall be filed once completed, and the operator has

We would like to retain this well as temporarily abandoned while our seismic data is being re-evaluated.



FORM APPROVED OMB No. 1004-0135 Expires July 31, 1996

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) Raymond Reede	Title District Manager
Signature Rock	Date January 27, 1998
THIS SPACE FOR FEDERA	L OR STATE OFFICE USE
Conditions of approval, if any, are attached. Approval of this notice does not warr	ADM - Minerals MAR 1 1 1998
Conditions of approval, if any, are attached. Approval of this notice does not warrecruify that the applicant holds legal or equitable title to those rights in the subject which would entitle the applicant to conduct operations thereon.	ant or Office 'a artist and for

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

REGERN AS CONSERVATION COMMISSION THE STATE OF MONTANA BILLINGS OR SHELBY

JUL 1 1955 LOG OF WELL OIL AND GAS' CONSERVATION COMMISSION CF THE STATE OF MONTANA - EILLINGS GIL AND GAS CONSERVATION COMMISSION AMAIROM RO EYATE BHT RO Lease BLM-A-012244 Company MURPHY CORPORATION _Well No.__14 __Field (or Area) <u>East Poplar</u> B-13 Behner | Building ; T. 28N ; R. 5lE ; County Roosevelt __; Elevation_ 2100' K.B. (D.F., R.B. or G.L.) Commenced drilling May. 18, 1955 _____, 19___; Completed June 9 The information given herewith is a complete and correct record of the well. The summary on this page is for the condition of the well at the above date. Completed as O11 Well Signed_ (oil well, gas well, dry hole) Title Division Production Superintendent Date__June_28, 1955 IMPORTANT ZONES OF POROSITY (denote oil by O, gas by G, water by W; state formation if known) From 5639 5647 (0) From 5657 5672 (0) From_5807 CASING RECORD

Size Casing	Weight Per Ft.	Grade	Thread	Casing Set	From	То	Sacks of Cement	Cut and Pulled from
13-3/8	L18#	H-40	8	28	_ 0	70	50	
9-5/8	36#	H-40	8 .	983	O	993	1,00	
5-1/2	15 . 50#	J - 55	8	5823	0	5832	300_	
				. 0	. 6 11			

TUBING RECORD

Ī	Size Tubing	Weight Per Ft.	Grade	Thread	Amount	Perforations
[2-7/8	6.40	J-55	EUE	5633	Open ended

COMPLETION RECORD

Rotary tools were used from O Cable tools were used from____

Total depth_5833 ___ft.; Plugged back to______T.D.; Open hole from_

PERFORATIONS				ED, SHOT, SAND FRACED, CEMENTED		
1 Inte	erval	Number and	Interval . Amount of		Amount of	
From	To	Size and Type	From	To	Material Used ·	Pressure
5657	5665	40, 1/2" Jet	565.7	5665	2200 gals_acid	l l
1					8-2-0-2-2-2	

INI	TIA	L	PR	OD	U	CT	Ю	N	ĺ

Well is producing from_ _(pool) formation.

hours Pumping

barrels of oil per (pumping or flowing) ____Mcf of gas per_____

_hours, or__45 Discuss 133 inc. un barrels of water per

baj spor ju

154-5-55 (OVER) , the till green

	•		·		Ş			
		INITI	AL PRODUCTIO	N(Conti	nued)			
Initial 10-de Pressures (ay average proif measured):	Tubing Casing API (corrected to 60° l	(bb psi_flowing; psi_flowing; _	I./day) (if	taken)	,		psi shut-in psi shut-ir
		API (corrected to 60° l	DRILL STEM	1.11	i h.			
D.S.T.	From To	Tool Open	it-In F.P.	S.I.P.		Recovery		Cushion
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• 1			Туре		Interval			
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	;	Schlader er	Microlog Sur	voy 5t	2000	50 32 . U U.A.	(4)	
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			1 4 41 1	els: /				
-·,·			FORMATION F	RECORD	11- 5	>	1	
Frem	₹, To		MPLE AND CORE NO			(10)	Тор	of Formation
Mat AN	1.6 %	ATA A A	Addition of the second second	,	1.03	1 (1) 1 (2) (1) 1 (3) (1)	i.u) in 4 + C (1
		See Ar	PACIFIC DIRECTS	3. P				
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Senting - Analysis of the street of the stre

OFFICE OF BURY E. . . IF OF BOMEZHY L. C. . . EVALION COSPREZION

BEORIVED

Well No.

(supplied to valeurovie)

Company

EX CH.

wern counc

(Gran. Rule 208.9 & 231)

RECEIVED

REGETTED LOC DATA

JUL 8 ... 1955

JUL 11 1955

OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA - EILLINGS

OF THE STATE OF MINISTON

INTERVAL LOGGED

Schlumberger	Electrical Survey	2"	099/1-58321
Schlumberger	Electrical Survey	511	19961-58321
Schlumberger	Microlog 5"	*****	20001-58291
		· · · · · · · · · · · · · · · · · · ·	

LOG TOPS:

Eagle	(÷957)
Miobrara1983	(+117)
Greenhorn2334	(-834)
Graneros2542	(-1442)
Muddy Sandstone2860	(-780)
Dakota Silt3100	(-1000)
Dakota Silt3100 Morrison (?)3500	(-1)(0)
Venguard3910	(-1810)
Rierdon	(-1992)
Figer Shale	(-2170)
Pierdor———————————————————————————————————	(-22 ± 3)
Gypsum Springsluco	(-2300)
Spearfish	(-2507)
Amsdan4720	(-2520)
Heath4826	(-2726)
Otter4996	(-2396)
Kibbey Sandstone5129	
Kibbey Limestone5292	(-3192)
Madison5387	(-3287)
"A" Zone5499	(-3399)
A-B Salt221	
A-B Salt5639	(-3539)
"P-2" 7.070e5657	(-3557)
"C" Zone5807	(-3707)

RECEIVED

JUL 11 1955 COMPLETION LATA

CF THE STATE OF MONTANA - EILLINGS

OIL AND GAS CONSESPATION COMMISSION OF THE STATE OF MORTANA

CASING: Ran 32 jts. 983.487 of 9 5/8" J-55, 36#, R-2, 8rd. thd. Standard C American casing. Landed 10.007 below RKE, Howco shoe at 993.48%.

Cemented with 400 sacks regular cement with 2 per cent CaClo. Circulated 100 sacks cement. Bumped plug with 1000#. Float held 0K. Plug down at 3:15 F.M., 5-20-55.

Ran 178 jts. 5823.50° of 5 1/2" 15.50%, J-55, R-2, 8rd. thd. American casing. Landed 8.50° below RKI and sev at 5832°, Schlumberger measure. Ran 200° of Howco scratchers as follows: alternate 5° of scratchers with 15°, blank from 1875° to 1970°, solid 50,90° to 550,5°, solid 5615 to 5700°, alternate 5° of scratchers with 10° blank from 5700° to 5778°, and solid scratchers 5778° to 5815°. Fan 5 Howco contralisers at 1950°, 5670°, 5605°, 5712°, and 5813°. Halliburten substantia fillup shoe at 5832° and Halliburten befill oclier at 5796°. Generated with 300 encks of Slo-set cament with 2 per cost get. Plug down at 5°05 A.H., 6-7-55. Burged plug with 1000%. Released processes. Float held 37. May rotated freely while camenting.

CMPLETION: Tosted 5 1/27 casing with 1800%, 30 minutes, Held OH, Rin TE2 jts. 5625.260 of 2 3/8", J-55, 4.704, Erd. tid. tubing open anded. Landed 7.500 below RKS and set at 5632.760. Ferforeted B-2 Zone from 56571 to 56651 Schlumberger measure, with Lane Wells 1 3/4" tubing gum. Acidized with 200 gals, of evolving sold followed by 500 gals, of gel, followed by 1500 gals, of stoking sold, Formation broke down at 2600 #. Mardinum imjection rate 2 1/2 bils, per minute at 2750%. Bleed down pressure 1850%. Spend acid to surface in 11 minutes, Well died in 20 more minutes. Circulted acid water out of twing 3 times. Found no apparent formation water. Circulated tubing clean and shut well in. Released rig at 10:00 P.M., 6-9-55. Moved rig off location. Moved in swabbing unit to test well. SITP 400%, SIGP 500%. Flowed 16 bbls of fluid by heads. Leaded up with water and died, Swabbed 39 bols, of fluid with 20 per cont mater in 2 hours after unloading water to pits. Swabbed 25 obls. fluid per hour, 3 per cent water. Let set h 1/2 hours, would not flow. Ran rods and set pumping unit. Ran D and B insert pump with seating mipple approximately 3500. Test: 1 1/2" pumb. 16m5h" stroke. rump dettill 35001 7-1-55: 162 bbls. oil, 133 bbls. water, water cut 45 per cent. 7-2-55: 162 bbls. oil, 190 bbls. water, water cut 54 per cent. 7-3-55: 198 bbls. oil, 206 bbls. water, water cut 51 per cent.

Ran 1 jt. 13 3/8", 16#, H-10, 3rd. the. American casing in 1952. Set at LC:. Cemented with 50 cacks coment.

RECEIVED

DRILL STEH TESTS

JUL 8 1955

OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA - BILLINGS

No Drill Stem Tests were run on this well.

REGEIVED

JUL 11 1955

OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA CASING: Ran 1 jt. of 13-3/8", 48#, H-40, 8rd. thd. American casing in 1952.

Set casing at 40'. Cemented with 50 sacks of cement.

Ran 32 jts. 983,48° of 9-5/8°, J-55, 36#, R-2, Brd. thd., Standard C American casing. Landed 10.00° below RKB. Howco shoe at 993,48°. Cemented with 400 sacks of regular cement with 2 percent CaCl2. Circulated 100 sacks of cement. Eumped plug with 1000#, float held ok. Plug down at 8:15 P.Mez 5-20-35.

Ran 178 jts. 5823.50° of 5-1/2", 15.50%, 3-55, R-2, 8rd. thd., American casing. Landed 8.50° below RKB and set at 5832°, Schlumberger measure. Rnn 240° of Homeo scratchers as follows: elternate 5° of scratchers with 15°, blank from 4876° to 4970°, solid from 5490° to 5545°, solid from 5615° to 5700°, alternate 5° of scratchers with 10°, blank from 5700° to 5778°, and solid scratchers from 5778° to 5818°. Ran 5 Howeo centralizers at 4950°, 5470°, 5606°, 5712°, and 5818°. Halliburton automatic fillup shoe at 5832° and Halliburton baffle collar at 5796°. Comented with 300 sacks of Slc-set cament with 2 percent gel. Plug down at 5:05 A.M., 6-7-55. Europed plug with 1000%, released pressure, float held ok. Pipe rotated freely while cementing.

COMPLETION: Tested 5-1/2" casing with 1000% for 30 minutes, held ob.

Wan 182 jts. 5625.26° of 2-3/8", J-55, 4.70%, 8rd. thd. tubing, open ended. Landed 7.50° below RKB and set at 5632.76°. Perforated "B-2"

Zone 5657°-5665°, Schlumberger measure, with Lane Wells 1-3/4" tubing gun. Acidized with 200 gallons of etching acid followed by 500 gallongs of gel, followed by 1500 gallons of etching acid. Formation broke down at 2600%, maximum injection rate 2-1/2 barrels per minute at 2750%, bleed down pressure 1850%. Spant acid to surface in 11 minutes. Fell died in 20 more minutes. Circulated acid water out of tubing 3 times. Found no apparent formation water. Circulated tubing clean and shurly well in. Released rig at 10:00 P.M., 6-9-55. Moved rig off location.

Noved in swabbing unit to test well. SITF--400#, SICP--500#. Flored 18 barrels of fluid by heads. Loaded up with water and died. Swabbed 39 barrels of fluid with 20% water in 2 hours after unloading water to pits. Swabbed 25 BFPH, 3% water. Let set 4-1/2 hours, would not flow. Ran rods and set pumping unit. Ran D and B insert pump with seating nipple approximately 3500.

Tested on a 1-1/2" pump, 16 x 54" stroke, pump depth 3500°, 162 barrels of oil, 133 barrels of water, water out 45%.

ELECTRO LOG DATA

TYPE OF LOG	INTERVAL LOGGED
Schlumberger Electrical Survey 2"	09941-58321
Schlumberger Electrical Survey 5"	1996'-5832'
Schlumberger Microlog 5"	20001-58291
Schlumberger Microlog 25"	5372 '- 5829 '

LOG TOPS

	Depth	Datum	Thickness
Eagle	111/13	→ 957	
Niobrara	1983	÷ 117	
Greenhorn	2334	= 23l;	•
Graneros	2542	2بليا -	
Muddy Sd.	2880	- 780	•
Dakota Silt	3100	-1000	
Morrison (?)	3500 ··	-11,00	
Vanguard	3910	-1810	
Rierdon	4092	-1992	
Piper Sh.	4270	-21 70	
Piper Ls.	1,31,3	-2243	
Cypsum Sprgs	1400	-2300	
Spearfish	4607	-2507	
Amsden	4708	-2608	
Heath	4826	-2726	
Otter	4996	-2896	
Kibbey Sd.	5129	3025	
Kibbey Ls.	5292	-3192	
Madison	5387	-3287	
A-1	5466	-33 66	31
A-2	5482	-3382	7.
A-3	5499	-3399	ייַי
A-L	5518	-3418	18,
B-1	5639	-3539	91
B-2	5657	-3557	. 173
B-3	5679	- 3579	70
B-4	5710	-3610	61
B-5	5750	-3650	?
C-1	5796	-3 696	?
C-2	5807	-3707	15 '

DRILL STEM TESTS

NO DRILL STEM TESTS WERE RUN ON THIS WELL.

NO COPE ANALYSIS WAS RUN ON TRIS WELL.

CORE DESCRIPTIONS

NO CORES WERE RUN ON THIS WELL

<u>MUDPROGRAM SUMMARY</u>

MUD ADDITIVES USED:

Aquagel 100 sac Barafos 3 sac Bariod 18 sac Driscose 18 sac	ks Soda As ks Tannex	h 	18 33	sacks sacks
Mud Cost Drayage				
Total Mud Coming and and	~ (t) -71.7 32			

SUMMARY:

The 12 1/4" surface hole was drilled to 1014 using a gel mud with very light chemical treatment. In addition to the 6 sacks of gel used which cost \$13.86, additives of 100 sacks of Barites and 3 sacks of phosphate totaling \$1,142.50 were used. At a depth of approximately 800 the weight was raised to 12 lbs. per gallon to crowide sufficient hydrostatic head to hold the strong gas and water flows usually encountered in the Judith River sand. The total mud cost for drilling the surface hole was \$1,156.36.

Drilling was continued to approximately 4400' with water and the mud was converted to a high pH red mud at this point. Chemical additions of Hydrotan, tennex, soda ash and driscose were made to control the pH; viscosity, and water loss while drilling the limestone, anhydrite, salt, and dolomite sections. The weight was maintained from 10.3 lbs. per gallon to 10.5 lbs. per gallon with barites or water. The water loss was maintained at or below 15cc after reaching the pay zones. The use of hydroton was effective in controlling the PH above 12 and no serious calcium fluff was obtained.

No coring or testing was done and the mud properties were maintained reasonably constant. No trouble was encountered while drilling.

Mud characteristics while drilling were as follows:

Deoth	Weight	Viscosity	Wtr. Loss	F.C.	Ph.	
4521 4675 5032 5197 5449 5488 5603 5657 5730	9.9 10.1 10.4 10.6 10.4 10.5 10.5	38 45 49 46 50 48 51 58	20. 22. 19. 15.6 15.3 13.4 14.0 16.0	2/32 2/32 2/32 2/32 3/32 2/32 3/32 2/32	11.6 12.5 12.6 12.6 11.7 13.	

Drilling Bit and Totco Records

Run Mo.	Malce	Tyce	Ser. No.	Size	From	To	
1	Reed	7.T3	Re-run	12 1/4	0	1011	
2		0SC-3-J	51202	8 3/4	1014	2720	
3	Hughes	11	49291	. 17	2720	3288	
Ļ	11	OSC-J	59416	11	3288	3364	
5	13	l3	70509	17	336lı	3623	
6	1:	13	88460	:1	3623	3884	
7	1:	tr.	9899	11	3884	3928	•
8	r:	11	7117	π	3928	4086	
9	17	D	9529	Ħ	1,086	6بلتبا	
įo	1 3	17	65547	11	धिराह	44.18	
11	11	OVIVI	57791	11	4418	4577	
	t:	ON77	91360	\$1	4577	4722	
13	12	11	75507	π	4722	4888	
12 13 14 15 16	£3	11	91233	f:	4888	4940	
15	11	1.0	76134	11	4940	5017	
16	t:	ONVJ	58334	tt .	501.7	5200	
17	11	OWN	58328	TS	5200	5355	
18	11	11	58331	17	5355	5428	
19	11	t)	41798	r)	5428	5726	
20	11	CM-1	46569	ti	5726	5828	

Totco	Record	
Depth Out	Degrees Off	
250 720 848 975 1430 3324 3854 4850 5017 5200	3/4 2 1/4 2 1/4 2 1/4 2 1/4 2 1/4	' .

######################################	8898 e8898 und 268 und 18 und
	SAHPLE DESCRIPTION

88283	28235 2 2	
2160	2180	Shale; gray, firm, slightly calcareous, numerous small tan calcareous specks. Some soft light gray sandy bentonite, trace pyrite.
2180	2200	Shale; as above with slight inclusions in bentonite.
2200	2240	Shale; medium gray, medium firm, slightly calcareous, no specks, medium soft, trace to some light gray bentonite, trace speckeled shale.
2240	2290	Shale; as above with decrease in bentonite and trace light gray, very fire grain, calcareous, silty sandstone. No show.
2290	2410	Shale; dark gray, firm, medium hard, calcareous, numerous small tan specks. Trace glauconite pellets at 2300°; trace light gray bentonite.
2410	2440	Shale; light to medium gray, medium firm, slightly calcareous; trace to some dark gray, soft, fissile shale.
2440	2520	Shale; dark gray, medium soft, fissile, numerous small brown plant spores (?); trace light gray to medium gray calcareous shale as above.
2520	2740	Shale; as above with trace light gray, sandy shale and trace light gray, dirty, fine grain sandstone.
2740	2800	Shale; light-medium gray, medium firm, slightly micaceous, slight inclusions in dirty gray, fine grain, sub-angular, tight, argillaceous sandstone.
2800	2940	Shale; as above with slight inclusions in sandstone as above; trace fine grained glauconitic sandstone.
294(:	3000	Shale; as above with approximately 40% light gray to clear, fine to medium grain, slightly glauconitic, sub-angular sandstone.
3000	3090	Shale; medium-dark gray, medium soft, slightly fissile, non-calcareous; faint trace of shale and sandstone as above in top 10', occasional thin streak dirty yellow-gray bentonite.
30 90;		Sample Top Dakota Silt
3090	9130	Shale; as above with trace light gray, soft, siltstone.
313 0		Sample Top Dakota Sandstone
313(:	3240	Sandstone; light gray to white, fine grain, well sorted, porous, and permeable, sub-rounded; some dark gray shale as above. No show.

** ** *** ***

SAMPLE	DESCRIPTION	CONTINUED
	D-0 0100 1 2 2 2 2 2 1	00117 - 11/2/2/2

3240	3260	Shale; dark gray, firm, splintery; some light gray-white, fine to medium grain sandstone as above.
3260	3300	Sandstone; white, medium grained, sub-rounded, well sorted, good porosity and permeability, scae shale as above.
3300	3440	Shale; dark gray, firm, splintery; trace sandstone as above; trace medium to coarse quartz grains interbedded in a brown siliceous matrix.
3440		Sample Top Morrison
3440	3450	Shale; medium to dark gray, firm, slightly fissile, con- calcareous, slightly glaucontic.
3460		Sample Top Swift
3460	3500	Shale; as above with some white, fine grained, well sorted, tight, slightly glauconitic sandstone.
3500	3580	Shale; cark gray to black, firm, medium hard, splintery, non-calcareous.
3580		Sample Top Venguard
3580	3630	Shale; as above with trace soft, light gray siltstone.
3630	3650	Shale; as above with approximately 40% white, fairly well sorted, sub-angular, tight, very slightly calcareous, very glauconitic sandstone.
3650	3810	Shales gray to brownish-gray, medium hard, splintery, firm, trace glauconitic sandstone.
3810	3900	Shale; gray, splintery, firm, trace dirty gray, very fine grain, slightly glauconitic sandstone.
3900 3900	3920	Sample Top Rierdon Shale; light gray-green, firm, medium hard, calcareous,
3920	3940	Shale; as above with some very fine grained, tight, well sorted, calcareous, glauconitic sandstone.
3940	4010	Shale; gray-green, light gray-brown, splintery, medium soft, calcareous; trace calcareous sandstone as above.
4010	4030	Shale; dark gray-brown, medium soft, slightly fissile, numerous small, thin, black, carbonaceous laminae; some gray-green, calcareous shale.
4030	4250	Shale; gray and gray-green, medium firm, slightly splintery, trace glaucomite, slightly calcareous.
4250 4250	4340	Sample Top Piper Shale Shale; as above with trace dark red, firm, slightly silty shale. Trace soft white anindrite.

4340		Sample Top Piper Limestone
4340	4390	Shale; as above with trace dark brown, cryptocrystalline, dense limestone; trace red shale as above.
4390	4415	Shale; gray and gray-green, medium firm, medium hard.
4415	4430	Shale; light to medium gray, soft, gypsiferous, slightly silty; some gray-green shale as a bove.
4430	4 445	Shale; gray, medium firm, medium hard; some soft gray shale as above; trace medium brown, dense, cryptocrystalline, limestone.
4445	` 447 5	Shale; light gray-green, medium hard, medium firm, slightly calcareous; some medium to dark gray, soft, gypsiferous shale; trace brown limestone; trace red shale.
4475	4510	Shale; gray and gray-green as above with some light to medium brown, dense, medium soft, amorphous to cryptocrystalline limestone.
4510	4520	Shale; medium to dark gray, medium hard, firm, some gray-green calcareous shale; trace red shale,
4520	4590	Shale; as above with trace light to medium brown, medium soft, emorphous limestone, trace pyrite.
	4635	Shale; dark gray, medium hard, firm; some orange-red, very fine grained, very anhydritic, well sorted sandstone.
4635 3635	<u>4</u> 700	Sample Top Spearfish Sandstone; orange-red, medium to fine grained, fairly well sorted, very anhydritic; some red, soft, anhydritic shale; trace soft white anhydrite.
4700		Sample Ton Amsden
4700	4710	Shale; dark gray, medium hard, firm, slightly calcareous; trace red and green, variegated soft shale; trace soft pink dolomite.
4710	4725	Shale; dark brownish-red, medium soft, firm; some red and pale green variegated soft shale; some light gray-green splintery shale.
4725	4750	Limestone: light to dark brown, microcrystalline, very dense, fessilifereus; some variegated shale as above.
4750		Shale; medium gray to gray-green, medium firm, splintery, slightly calcareous; some green and red variogated shale; trace limestone as above.

4785 Linestone; light gray-brown, medium hard, amorphous, fossiliferous: some red and green variegated shale: trace gray shale, 4785 4805 Shale; medium gray, firm, calcareous; some red and pale green variegated, shale; trace dark gray to black, non-calcareous shale. 4805 Sample Top Heath 4835 4805 Shale; dark gray, firm, noncalcareous, slightly fissile; trace red and green variegated shale as above. 4835 4845 Shale; gray-green, medium hard, firm, splintery, non-calcareous; some red, green, and lavender, splintery shale; some black, carbonaceous, chunky shale; trace soft red silt. Shale; as above with slight trace fine, medium gray, sub-angular, 4845 4855 fairly well scrted sandstona. 4855 4875 Shale; predominently gray-green, with some gray and red; firm, splintery to chunky, slightly calcareous, trace sandstone as above 4895 Sandstone; red-brown, medium to coarse grain, poorly sorted, 4875 angular, fair porosity, very slight oil stain, dull yellow fluorescence, slight cut with CCla. 4895 4940 Shale; red, green, gray, brown, medium soft, firm. 4980 Shale; as above with some red and gray, coarse to medium grain, 4940 poorly sorted, angular sandstone. 4980 5000 Sandstone; fine to coarse grain, red staining, good visible porosity, poorly sorted, angular; some varicolored shale as above. 5035 5000 Shale; vari-colored, firm, with some vivid green. 5035 5100 Shale: vari-colored as above with some light brown, microcrystalline, fairly dense, fossiliferous limestone. 5100 5120 Shale; veri-colored with medium gray predominant, medium soft, firm; trace light brown, limestone. 5120 5145 Shale; gray, firm, medium hard, very slightly calcareous, trace green and red shale. 5145 Sample Top Kibbey Sandstone 5145 5155 Shale; as above with some light gray with red stain, fine to medium grain. poorly sorted, sub-rounded sandstone; some soft red siltstone.

SAMPI	E DESCR	IPTION CONTINUED
5155	5200	Sandstone; red, fine to medium grained, poorly sorted, frosted grains, sub-rounded.
5200	5225	Shale; red, medium hard, firm; some gray calcareous shale; some sandstone as above.
5225	5250	Sandstone; clear with some red staining; medium grain, poorly sorted, frosted, sub-angular; some red and gray-green shale.
5250	5285	Sandstone as above with inclusions in red shale, Shale; red and gray, medium hard, firm.
5285		Sample Top Kibbey Limestone
5285	5370	Limestone; cream to light brown, hard, dense, amorphous. Sandstone; some red, fine grained, angular. Shale; grays and reds.
5370	5390	Sandstone; red, very fine grained, slightly calcareous. Lime- stone; trace as above. Shale; red and grays and some gray- greens.
5390		Sample Top Charles
5390	5423	Shale: as above. Limestone: trace white. Anhydrite trace. Sandstone trace as above.
5423	5476	Limestone; gray to gray-brown, cryptocrystalline, dense, hard. Shale: trace green, gray-green and some reds. Anhydrite; scattered to prevalent.
5476	•	Sample Top "A" Zone.
5476	5488	Limestone; medium gray, cryptocrystalline, dense, hard, scattered pale yellow fluorescence and slight cut. Shale; trace grays and some reds.
5488	5532	Limestone; chocolate brown, emorphous, dense, no show. Anhydrite trace.
5532	5562	Limestone; prevalent, gray to buff, microcrystalline, dense, Shale; scattered rads, gray and greens.
5562	5600	Limestone; Hight gray, amorphous, dense, no show. Anydrite; prevalent.
5800	5628	Anhydrite; limestone; light gray, zmorphous, dense.

Dolomite; anhydritic, fine crystalline, dense.

Limestone; medium gray-brown, microcrystalline, hard, fair golden fluorescence and stain on limestone. Anhydrite;

Sample Top "B-1" Zone

scattered.

5628 5635

5670

5635

5635

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SAMPLE	DESCRITTATION.	CONTINUED

		•	
5670	5700	Dolomite; gray-brown, microcrystalline, dense. Limestone; as above scattered.	
5700	5810	Limestone; gray-brown, micro to crypto-crystalline, dense. Shale; scattered, medium gray to black.	
5810	5828	limestone; gray-brown, medium crystalline to sucrosic, some pin-point porosity, spotty golden yellow fluorescence. She as above.	e ale;
	_		

Total Depth 5828' Driller equals 5833 Schlumberger

This well is T.A. with open perf in 4895.98, 5640-43 and packers at 4933 and 5550.

B-1 5640-43 CIBP 6 5550

2-28-65 perf 11945- 4950

3-2-65 set ciop 8 4939 + squeeze

Heath @ 4945-50 & squeeze

3-3- perf 4895-98

```
Location: C SW SE Soc. 3-T29N-R51E
                                                 Coring Intervals:
           Spacing = 40 acres
Elevation: 2088 Gr. - 2100 K.B.
                                                     None
Spudded:
           5-18-55
Completed: 6-9-55
           5828' Drlr = 5833' Schla
T.D.:
Prod. Zones: B-2 (5657-5665°)
                                                 Drill Stem Tests:
            Schlumberger Tops
                Lapth
                        Datum
                                Thickness
Judith River
                                                     None
                2334
                        ∞ 23L
Greenhorn
                        ~ 780
Muddy Sd
                2880
Dakota Silt
                3.100
                        -1000
               1,343
Piper Ls
                        ~2243
Amaden
                        -2620
               11720
             **1826
                        -2726
Heath
                        ~2896
Otter
               7529
Kibbey Sd
               5129
                        -3029
Kibbey Ls
               5292
                        -3192
Madison
               5387
                        -3287
A-l
             3135FQQ
                        ~3366
             +H5482
                        -3382
                                   71.0
A⇔2
Λ-3
             4HX5L199
                        -3399
                                  113
               551.8
                                  18?
A-lı
                        -3718
                                   98
B-1
             *H15639
                        -3539
               5657
                        -3557
                                  17:
B-2
B-3
             ***5679
                        -3579
                                   73
             *45710
В-И
                        -367.0
B-5
               5750
                        -3650
             ***5796
C-1
                        -3696
               5807
                                  158
                        £3707
                                                 History Subsequent to Completion:
C-2
 **Probable prod. Zones (From DST struc-
   ural position, etc. .
                                                    None
   #Shows
      Drill Pipe Corrections (Made)
      5215 Driller = 5200 SLM (-15)
```

workover no. 1

Lease & W	ell No. East Popla	r Unit Hell No. 14		
	st Poplar	County Roosevelt	State	Mgnsana 4 1961
Well Loca	tion C SE SE Sect	ion 3, T28N, R51E		Mgngana OF THE STATE OF MONTANA

Date October 2, 1960 P

Status Prior to Present Job:

Date Completed June 9, 1955 Date of Last Workover None B . zone of Madison Formation PBTD 5794 Producing Zone Perforations _5657-5665 Cumulative Production 120,630 BO, 444,095 BW Latest Test Pumping 256 BFPD, 90% water (26 BOPD, 230 BWPD)

Justification for Workover:

To increase production, test Latex cement for water shut off and attempt to determine the water cut's of the Bold and zones individually.

Sammary of Horkover:

- 7-7-61 5794' PBTD. Moved in pulling unit to squeeze B zone and recomplete.
- 7.8-61 5794' PETD. Pulled rods, dia-logged 24' tbg. Found 29 thin jts. Pulled thgs. Laying down bad 21" and 2 3/8" thg. Ran thg. with Baker full bore packer. Installed BOP.
- 7-9-61 5794' PBTD. Set Baker full bore pkr. at 5666' to test cag. below perf. Press. up to 26000, tbg. split. Pulled tbg. Found split jt. 34 doubles down. Ran tbg. and set pkr. at 5666'. Test csg. and tbg. w/ 3500#, hald. Reset pkr. at 5649' and test csg, BOP w/ 1500#, held. Superzed 8 2 zone perf. 5657-5665 w/ 60 sax Latex cement. Broke formation with 1200f. Ran fresh wtr. ahead and behind cement. Squeezed 35 sax cmt. out in formation. Max. pressure 4500%, held OR. Reversed out 25 sax cmt. Washed down through perfs. Started out of hole with thg. Right angle drive on rig broke. Shut down to repair.
- 7-14-61 5757' PBTD. Test squeeze with 1500%, held OK. Pulled tbg. out of hole. Ran Gomma-ray Neutron and collar log w/ Wireline, Inc. Perf. B. zone with Wireline jet notch gun. Two holes 5658' and 5661'. Ran tbg. w/ Baker Model R pkr. Set pkr. at 5651' and swab tbg. dry. No apparent fluid movement.
- 7-15-61 5747' PBTD. Ran swab, rec. 300' fluid, slight show of oil. Acidized B zone, 5658-5661 w/ 500 gals Dowell retarder acid. Spot acid down thg. Press. up 2200# and let soak for 10 mins. Increased press. to 3400%, acid started feeding. Formation started breaking back w/ 3 bbls. in formation. Inj. remainder of acid at rated of & BPM at 2,000f. Five mins. bleed down, 550f. Swabbed spent acid and water. Released packer and pulled thg. Ran thg. with Halliburton anchor

- 7-17-61 (cont'd.) catcher and seating nipple. Seating nipple at appropr. 5490'
- 7-18-61 5747' PBTD. Rigged up pulling unit and fished rods. Broken pin at 2200'. Started well pumping.
- 7-19-61 to 7-25-61 Testing. Last test 246 BFPD, 96% water. (10 BOPD,

 236 BWPD). Temporarily dropped from report.

 OF THE STATE OF MONTANA

 Total since 7-19-61. Production leveled off at 7 BOPD.
- 8-22-61 5650'. Tested since 7-19-61. Production leveled off at 7 BOPD. 14 IE OF 600 232 BWPD. Pulled rods and the Ran junk basket.on wire line. Set Model K cement retainer at 5652 on Lane Wells Wire Line. Ran the and squeezed B zone w/50 sax Latex cmt. Broke formationswith 2600%. Squeezed 28 sax cmt. out in formation. Max. squeeze press. 4,000%. Reld OK. Reversed out 22 sax cmt. Pulled the out of hole and installed blind rams. SI overnight. Test squeeze with 1500%. Held OK.
- 8-23-61 5650' Perforated B. zone from 5640 to 5643 with Lane Wells NCF 11 Casing jet with 4 SPF. Ran tbg w/ Baker Model R pkr., and set at 5638'. Swabbed tbg. dry. Let set one hr. then made run with swab. (dry). Acidized B. (5640-5643) w/ 500 gals retarded acid. Spotted acid down tbg. Tested csg. with 1500#, held OK. Pressured up to 1500#. Pressure would bleed off very slow. Inj. 2 bbls. acid at rate of .25 BPM. Increased pressure to 2500#. Inj. 4 bbls. acid at rate of .25 BPM. Inj. remainder of acid at rate of .33 BPM w/ press. to 2900#. No break down through job. 10 min. shut in, 1800#. Opened to pits and swabbed spent acid, water and oil. First 2 hrs swabbed at rate of 82 BFPD, 80% water. (16 BOPD, 66 BWPD). Shut in overnight.
- 8-24-61 5650'. Swabbed 2 hrs at rate of 130 BFPD, 70 to 75% water.
 Re-acidized B zone 5640-5643 with 1000 gals retarded acid. Spotted acid down tbg. Injected acid at rate of .75 BPM at 3,000%. No break throughout job. 10 min. shut in pressure, 1600%. Swabbed spent acid water and oil to pit. Swabbed 4 hrs. to test tank. Last 2 hrs. swabbed at rate of 109 BFPD (27 BOPD, 84 BWPD)d
- 8-25-61 5650'. Pulled thg. to remove Model R packer. Ran thg. with Halliburton anchor catcher and seating nipple. Ran rods with 16' Oilwell pump.
- 8-29-61 5650 PBTD. On 24 hr. test, pumped 80 BFPD, 21% water. (63 BOPD, 17 BWPD). This is initial potential test on B . zone. To drop from report: Workover successful.

Recap of Workover:

- 1. Final Perforations: 5640-5643
- 2. Final PBTD 5650'.
- 3. Initial Potential: 80 BFPD, 21% water (63 BOPD, 17 BWPD).
- 4. Geological name of producing zone: B zone of Madison Formation
- 5. Downhole equipment: 2 7/8" tubing @ 5536'.

 5450' 7/8" & 3/4" rods

 2\frac{1}{2}" x 1\frac{1}{2}" x 16' pump.

WORKOVER HISTORY NO. 2

August 29, 1952

Justification for Workover:

To increase Production.

Summery of Workover:

8-21-62 5650' PBTD.

Moved in pulling unit & pulled rods & tbg. Ran tbg w/Baker Model "R" packer. Set packer at 5634' & test casing & well head w/1500#. Held. Acidized B-1 Zone (5640-43') w/3 bbls Visco B-3-S acid mixed in 15 bbls fresh wtr. Ran 2 bbls fresh wtr ahead & behind acid. Injected acid at rate of 1/3 BPM w/press at 1000# building slowly to 2500# at end of job. Shut well in & let acid set on formation 24 hrs.

8-22-62 5650' PBTD.

Fulled the our of hole & removed Baker packer. Ran the back same as before. Ran rods w/2 1/2"x1 1/2"x16 oil well pump. Started well pumping.

WELL TEST BEFORE AND AFTER TREATMENT

医动脉 化电子放射性

Date	BYPD	H/C	BOPD	BWPD	Remarks
8-02-62	38	55	17	21 .	Before trestment
8-23-62	98	38	61	37	After treatment pumping load oil
8-24-62	59	72	16.	42:	· :
8-25-62	42	70	13	29	
8-25-62	41	65	14	26	· · · · · · · · · · · · · · · · · · ·
8-27-62	49	65	17	32	Pumping fluid level 5270'

Recep of Workover:

Final Parforations:

5640-5643' (Unchanged)

2. Finel PETD: 5650' (Unchanged)

Workover Potential:

Pape 49 BFPD, 66% wtr (17 BOPD, 32 BWFD)

4. Geological name of Producing Zone: B-1 of Madison Formation (Unchanged)

5. Downhole Equipment: (Unchanged)

2 7/8" tubing @ 5536'. 5450' 7/8" & 3/4" rods 2½" x 1½" x 16 pump

MORKOVER MISTORY NO. 3

Describer 18, 1982 Lasca and Well No. Bast Poplar Unit Well No. 14 Field Nect Pooler Coursy Rocsavelt State Months Vall Location C SR SE Section 3, T200, ROLE Status Orion To Present Jab: Date Completed June 9, 1955 Date of Last Worksver August 21, 1962 TD 5033' PETD 5650' Producing Zone B-1 of Madison Formation Letest Test Juichisterien for Workover: To Energose Production. SERMET OF Workever: 11-86-82 5656' PRID Moved in pulling unit to resciding B-1 cone. Test the unith 35007. Mald good. Pulled rods and thg. Rem thg. with Beker Model "R" packer. Shut down overnight. 11-37-62 \$850' PRID. A Set Hodel "R" phr. at 5629'. Filled cag. and test head, thg. and ple. m/1900%. Wald good. Acidimed B-1 wone 5600-43' w/3000 gole. Douell recorded sold with MA N-2 J-203/ Added mired 1800 gals. lesse crude w/1009 adomite, added and pump sheed of sold. Papa Adomite and oil at rate 3/4 DFM. at 3500%. First 4 bols, acid at wate of 1/2 BFM at 3500%. Formation broke, increased pump rate. Injested remainder of soid at rate of 4.5 BPM at 3200%. Blood down press. 2200%. Lat acid set 1 hr. on form. Started swabbing. Ewbd S has. Lest hat the rate of 22 PPH 95-98% salt water w/olight acid kasta.

11-29-52 SSSC' PATB.

Res rods and spaced 2 1/2" m 2" conv. pump at 5450". Started pupg.

at 11:60 A.M. Will test when well levels off.

11-30-62 5650' PDTD.

Peng. at the rate of 211 BFPD 100% wer.

12-1-62 5650' PBTD
Thru Pumping of the rate of 227 BFPD, 100% war.
12-3-62

12-4-62 S650' PBTD.
Fusping started showing trace of oil.

12-5-52 5650' PBTD. Fumping. 3 hr. test pupel at rate of \$25 EVMD - No cil. Speeded SMI from 12.5 SEM to 16 SEM.

12-6-52 5550' FBED. Pumping 100% wir.

39-7-33 5650' PETO. Pumping 180% war.

12-03-03

9850' PBTD. Pumping. Resting. War. out 97%. 12-9-62 - 6 hr. test pupg. at rate of 293 BYPD , 988 wir. Theu

6 DD, 207 NM. 12-10-62 - No test. 23-430-38

12-11-52 5550' 7820. Pumping 98% wer.

12-12-62 9650' PBTD. Pumping 98% wtr.

12-13-61 SSSO' PATO. Pumping 97% wer.

12-14-52 5650' FBTD. Fumping at rate of 301 BFPD - 96% wir., (12 BO, 280 BW) Mile is WD potential - To drop from report.

Recen of Workower:

Windl Perforations: 5640'-5643' (Unchanged)

2. Final PSTD: 5650' (Unchanged) .

Forturer Petential: Pupe 301 BYPD, 96% war. (239 ENTO, 22 EOP))

Gaelogical none of Producing Some: B-1 of Madison Formation (Unchanged)

2 7/8" tubing @ 5536' 5450' 7/8" & 3/4" rods - Stunbolo Mecipaone: (Unchanged) 2 1/2" x 1 1/2" x 16' guap

WORKOVERS #3

MFU NO. 14 -- C. SE. SW. Section 3,223M, R51E

//- 37-67
This woll was recompleted in the El zone (5640-42) in August 1962. Production leveled at 34 BFPD 67% water (228WPD 11EOPD). The Bl zone was coldized with 5000 gallens of retarded acid with Dowell fluid loss addative N-2. A speached of 1000 Adomite mixed with lease trude was pumped should of the acid. On the workover potential test the well pumped at the mate of 2982WPD 95% water (1580WPD, 2782WPD).

SWATCHER HISTORY NO. 4

Warre soil	Hall Da. Rost Morlow Holt Well No. 14
Fraid	th Booker County Roosvelt State Montage
Hail Loose	OD G SE SE Section 3. T28F, R51F
Stoken V. C	n to Present Job:
Bith Cample	ate! June 9, 1955 Bate of Last Horkover Hovember 26, 1962
TD5333	PBTD 5550' Producing Zone 5-1 of Madison Formation
Lateat Tho	Danamber 9, 1964, 977, water, 8 BOPD, 243 BWPD - Unaconomical
Specifical	ion for Workever:
17% Pater -	- Unaconomical
BOLKERRY OF	Worksys:
3-85-63	PRYD 5650' Prep. to plug off B-1 Zone and recomplete to Heath Sand. N. I.R.V. Pulling Unit. Pulled rods and thg. out of hole. Closed wall in overnight.
\$ -38 ~5 3	PBTD 5650' Ren Schlumberger Cement Bond Log from 5650' to A400'. Top of cmt. at 4650'. Good bond through Heath Send. Ren C.R. and Junk Bask on W.L. to 5690'. Ren Baker C.I. Nodel "K" Bridge Plug on W.L. to 4245' bridge Plug stuck in hole. Unable to work loose. Set plug and ran Baker Milling Tool on 2-7/8" tog. to 2000'. Closed well in evernight.
2-27-55	FSTO 5636' Finished going in hole w/Baker 4-4" O.D. Mill. Rigged up Fower Swivel and pump. Milled over Bridge Plug at 4240' and pushed same to bottom. Started out of hole. Shur down for rig regains. Closed walls.

WEED 5650' Finished repair on pulling unit. Pulled Buker 4-%" O.D. Mill Shoe out of hole. Ben G.R. and Junk Sasket on Schlumberger W.L. to 5500'.

Ern Johnson: G.E. Model 2-B Bridge Plug on W.L.. Set at 5554' w/l sack of out on top of plug u/drep bailer. Ran Model "E" Packer on 2-7/8"

199. Sel asaker at 4918'. Perforated w/Schlumberger through Trbing Hagnet Gun 4945' to 4950', 2 holes par foot. Closed well in evernight.

3-20-95

3-1-13 CARY FING To processe on tubing. Run oweb. Evebbed tubing to ASIL' (try of Note: "M" Pocker). Swabbed 8 house. Swab tube of follows:

lat hr.	Here of 100 mad	100% Selt Water
Ind hr.	Rets of 165 MFPP	100% Salt Water
Sed he.	Reta of 193 OFFD	100% Salt Water
Ach hr.	Rate of 154 BFFD	100% Salt Weter
Sta hr.	Rese of 184 BYPD	100% Sale Weter
öth hr.	Ageo of 164 AFFD	100% Salt Water
Ith br	Rate of 164 BFPD	160% Salt Water
Sab by.	Sate of 164 BEFD	100% Salt Water

Chlorides 38,000 PFN Closed well in overnight 7:00 AM Tubing filled up overnight and will flow 1/2" stream

- 3-2-65 PBTD 6937' Fulled tubing. Set HCWCO C.Y. Cut. Retainer on W.A. at 4939'.
 Ren tbg. stung into retainer. Pressure easing to 1500\$ Broke Vorwation at 2200\$. Rate of 6-BFM. Squeese Heath Sand. Ferforate 4945'-4950' w/ 50 sanks of Later Cut.. Spotted cut. down tbg. Stung into retainer.
 Represented easing to 1500\$. Max. squeeze pressure 4480\$ w/60 sacks in formation. Fulled ttg. Closed well in overnight.
- 1-3-55 PBTD 4937' Ron Model "A" Packer. Perforate Hauth Sand with Schlumberger through Embing Magnet Gwn 4895'-4893', 2 holes par foot. Reset packer from 4780' to 4875'. Ran sweb. Sweb test as follows:

lst hr.	150 EFPD	99% Water Cut	1.5	BOPD 148.5 EVPD
2nd hr.	137 EFPD	99% Water Cut	1	BOPD 136 BVPD
Grd.br.	109 RFFD	100% Water Cut		
4th hr.	109 BFFD	100% Water Cut		
5th hz.	109 RPFD	160% Water Gut		

Closed well in overnight. Tubing filled overnight. Did not flow, No oil on top of fluid.

3-4-35 FPTP 4937' Tested Pecker Held ON. Released packer. Pulled out of bole laying drug Unrhover Tubing. Redressed Model "R" Packer. Rem production tabing in hole to 4035'. Closed well in.

Temporardly Abundoned

The second secon

Within Payforectons: 4005' - 4800'

Plani Maro: 49371

Workever Potential: Touperarily Abandoned

Patheoing Zone: Home

Results of Markovey: TEMPORARILY ARANDOWED

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Pengo Wireline of North Da. ota

P.O. BOX 1952 WILLISTON, NO. DAK. 58801 PHONE: (701) 572-1087

JOB TICKET

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	CONDITIONS OF THIS CONTRACT	<u> </u>			
The undersigned, as and the term fixed by the Invoice in the event you emplowhich, in no event, shall be the the above described without in the above described witable for lightry to persons o arising from subsurface dan blowout, unless such loss o part thereof, it same snoud. Should any of your irea and customer agrees to not to terms recovered. Customer sugness that a Customer cardines that in which the work is to be a Customer cardines that in which the work is to be a Customer human ere.	N.D. total to furnish the service and mazenals and equipment herein set both upon the lobowing terms and condition issumer, agrees to pay you for the services and/or materials ordered hereunder at the office of Pengo Wireline of its, interest will be charged at the rate of ten per cent (10%) per annum from date of such invoices. I see that the sum of \$75.00. Independents against the understands clusters, sets customer agrees it less than the sum of \$75.00. In order that be performed by you as an independent contractor. However, it is understood and agreed that you do no property of well owners end/or customers unless caused by your within registers. This provision applying, nage, Well owner and/or customers that be responsible to and secure you against any liability for reservoir loss or damage is caused by your within registerse. The well owner or drilling company will pay for the actual cost it be lost or damaged while being used in performing the work on the above described well. Interest, tools, or sulpriment be lost or destroyed in the rendition of your service, customer agrees to use all reas mitures you for the reasonable value of any instrument, tools, or other personal property that cannot be recover all depth measurements shall be made by it or its employees, and shall be supervised by customer or its empt it to the owner of the well on which the work herein ordered is to be done or that it has the hill right and author tone by you is in proper and suitable condition for the performance of sald work.	IN.D., Williaton, N.D. Should to pay all costs of collection o not guarantee the results of but not limited to, subsurface or damage or personal propor of replacing or repaining the conable diligence and facilities and within (60) days, or for the oyees.	and reasonable a all your service and a damage and su any damage arisin well service equip a evaliable to reco a cost of repairing an such wells; and	ttorney's fed d shall not in riace damen ing from a wo ment, or an ver the samen any daman in that the wo	es be gs ed ny se, ge
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	Туре	_ in. Scale From	To		
	Log Measure From Drilling Measured From		_ Elev		
	Permanent Datum Fro		_ Elev		_

_0

First Run

Subsequent Run

PRODUCTION & INJECTION DATA

SURFACE EQUIPMENT

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